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The County Medical Society

Its Significance and Function

A. O. SWENSON, M.D.

Duluth, Minnesota

THIS annual meeting is especially noteworthy in that we are celebrating with the Hennepin County Medical Society, its centennial. One hundred years of county medical organization in Hennepin County has brought many changes and achievements. A hundred years of service to this community with its accomplishments of increased longevity and decreased morbidity is only a faint reflection of what the next one hundred years of service will bring. Again on behalf of the Minnesota State Medical Association, let me congratulate the Hennepin County Medical Society on its one hundred years of service to this community.

It is especially fitting on an occasion such as this, that we dwell for a moment on the significance of our county medical organization. There is an old saying that "interest does not bind men together, interest separates men." There is only one thing that can effectively bind people, and that is a common devotion. This common devotion is characteristic of our profession, although often lost sight of in our busy work-a-day world.

Our detractors would have us believe that there are two personalities in medicine — the physician, and the physician's organization or medical fraternity. Every doctor knows that the whole of medicine is greater than the sum of its parts; but in certain respects, the individual doctor is much more important than the medical society itself. Therefore, let us concern ourselves with the effect of the county medical society on the individual physician.

I like to think of the county medical society as a character-building organization. When the

young doctor in a community joins his local county society, he assumes certain obligations, not only to himself, but to the community of doctors in which he works, and to the public which he serves.

The period of transition from the life of the medical student to that of a practitioner of medicine, is a difficult one. He is exposed to many pressures, not the least of which is the economic necessity of making a living, and not too infrequently the necessity of repaying obligations which had to be assumed in order that he might be able to complete his prolonged course of study. The attitudes developed by the young practitioner in the early and formative months of his medical practice might well affect the rest of his life as a practitioner of medicine. Where else can the young practitioner turn but to the local county medical society for advice and guidance? It is the duty of the local medical society and its members to assist the young practitioner in every way possible, in order that his future career be shaped and guided in such a manner that it bring the most pleasure to himself and benefit to the community which he serves.

During his medical course, his internship, and/or residency, the young doctor has been so concerned with the scientific aspects of medicine that he has had little time or even opportunity to contemplate or visualize the obligations which he assumes on entering the practice of medicine. One criticism of our present medical education is that too little concern is given to teaching the code by which a doctor should live. The Hippocratic oath is supposedly too antiquated for present day purposes, and in only a few schools is this oath even read to the graduating class. The Student American Medical Association has

Presidential Address presented at the annual meeting of the Minnesota State Medical Association, Minneapolis, May 24, 1955.

done much to remedy this defect. The student's training in this organization makes him better able to take his place in the community, working with the fellow members of his profession and taking his rightful place on the staff of the hospital in which he serves his patients.

Usually, when the young doctor is elected to membership in his local county society, he, for the first time, is exposed to the code of ethics of the American Medical Association. This code of ethics has been evolved over the years, but is based essentially upon the ancient Hippocratic oath and the principles taught by the Father of Medicine. Like the Constitution of our United States, it is a living document and hence is subject to amendments and modifications as indicated by our social and economic changes. Basically, this code of ethics is for the protection of the patient and public. But, adherence to this code of ethics serves the best interest of the physician himself.

The medical society, like any other democratic institution, does not exist for its own sake primarily, but rather as an instrument through which its members are able to do certain things they could not hope to do as individuals. James E. Bryan, in his book on public relations in medical practice, has listed the opportunities which the medical society provides the doctor, to accomplish things for the good of his profession and the public which he serves. I shall briefly list them with some modifications and additions of my own.

First, it enables him to promote and maintain official representation of his profession in all public health and welfare programs. The expert guidance of the medical profession and the development of these various programs is essential. Where else can the public turn for unselfish and critical advice as to the need and extent of the programs involved? Unfortunately, the advice and opinions of the medical society are not always accepted or utilized. We have all seen instances of confusion and misguided effort, one quite recently, when the help and guidance of the medical profession has been ignored.

Our organization aids the individual physician to work for the creation of more favorable attitudes toward the profession, through a better understanding and appreciation of the public contributions of the doctor. It enables him to guide and determine the overall development

of medical practice and its relationship with other callings which would obviously be impossible if the doctors did not work as a group.

The protection of the public against exploitation by quacks and frauds and the legal status of medicine are maintained through the watchfulness of the physician's local, state and national organization.

The county society, only, can work toward the mitigation of professional jealousy. The society reduces discord and emphasizes the factors that unite the profession, and works to eliminate those factors which tend to divide it. Through its judicial council, the society can detect, re-educate, and when necessary, discipline those members who bring discredit upon the profession by unethical or abusive practices. This is the most unpleasant, but also one of the most necessary of the functions of the county medical society.

Changes in our social and economic life make it necessary to guard and promote social and economic mechanisms which will enable a patient to pay for necessary medical services regardless of his own cash resources, while avoiding governmental control of medical practice. In this connection, only the profession as a whole can interpret the principles and purposes of the medical profession to the public, thereby helping the people to appreciate the full value of the doctor's services. The protection of the individual members against commercialization or exploitation of professional services is very necessary. Many institutions and outside organizations seek to exploit the profession for their own immediate benefit.

A doctor's education is a continuation course that never ends. Only through community organization can the continuance of medical education be made available to each doctor. It keeps him abreast of the most recent developments in medical science and, by the interchange of ideas, improves his service to the public.

The county medical society tends to promote the association of the individual physician with other members of his profession, thereby stimulating his interest in medicine and the community in which he lives. If the doctor wishes to respect and obtain the respect of his fellow practitioners, he must know them and work with them for the common good.

The integration of the new member into his

COUNTY MEDICAL SOCIETY—SWENSON

local county society is one of great importance, but has been sadly neglected. Our national and state organizations have proposed programs of indoctrination which are splendid, but as yet they are not fully utilized. The importance of such a program is obvious to all of you, if we are to educate and make full use of the capabilities of a new member.

This year the Minnesota State Medical Association has entertained the new members at a dinner meeting, giving them an insight into state and national medical organizations. We hope that this program will grow in magnitude and be assumed by each county medical society for local indoctrination of the new member.

Let us also consider for a moment the older member of our association. As in the bee hive, we have the workers and the drones. As in other organizations, the drone is frequently the unjust critic. The uninformed and misinformed critical member of our association is usually the one who never attends meetings, never reads his county bulletins or his state and national publications. He is the grandstand quarterback who never carries the ball and is usually never even present at the game. He speaks learnedly of "cliques who run things" and star chamber activities of the council or executive committees, and calls his county and state officers politicians—and the definition of a politician in his verbiage is an exceedingly "dirty word."

I'm sure there are instances where selfish members of our profession have held office to satisfy a thirst for power or personal aggrandizement. The motives and superficiality of such

a person are soon apparent, and if the situation is allowed to continue, it is only through the indifference and indolence of the society members themselves.

The value of a dissenter in an organization is unquestioned, as he tends to make analyses more detailed and complete so that proper action can be taken. The informed and conscientious dissenter is a welcome and valuable member; may every society have at least one!

To satisfy even a majority of any organization is no mean accomplishment; to satisfy all would mean that the millennium had arrived. However, our chief contention should be over who best can serve.

How best to activate every member of our society is a problem that would tax the wisdom of a Solomon. We must, perforce, leave the solution to the intelligence and conscience of each doctor.

"Life is short and the art is long, the occasion fleeting, experience fallacious, and judgment difficult. The physician must not only be prepared to do what is right himself, but also to make the patient, the attendants, and the externals cooperate." Thus runs the first aphorism of Hippocrates, on whom history has bestowed the title of the Father of Medicine. This aphorism points out the need for medical organization. It points out the need for the individual physician to avail himself of the opportunities inherent in our organization. The chain is only as strong as its weakest link. Let us strive to make every member of our organization a good physician and a good servant of the public.

FILMS AVAILABLE THROUGH AMA MOTION PICTURE LIBRARY

A revised list of films available through the AMA motion picture library has been prepared, and copies are available upon request from the Committee on Motion Pictures and Medical Television of the American Medical Association. This catalog lists eighty-three medical films suitable for showing to medical societies,

hospital staff meetings and other scientific groups. The catalog also includes thirty-six health films of interest to physicians who may be called upon to speak before lay audiences such as service organizations, parent-teachers' associations, et cetera.

Poliomyelitis Complicating Pregnancy

JAMES R. BERGQUIST, M.D. and
WILLIAM P. SADLER, M.D.
Minneapolis, Minnesota

IN THE last ten years, there has been an increased interest in poliomyelitis. It would appear that in the past it had been thought of as a disease most common in children; however, with better means of diagnosis and reporting, it is clear that the incidence in adults is greater than heretofore supposed.

this group, eighty-eight of the patients were females between the ages of fifteen and forty-five years. Twenty-four (27.3 per cent) were pregnant. This figure is slightly higher than the 21 per cent reported by Anderson in the 1946 epidemic on a state-wide survey, but about the same as reported by Baker (26.2 per cent) in

TABLE I. INCIDENCE IN 1952 EPIDEMIC

Year	No. of Pt. Admitted	No. of Female Age 15-45	No. of Pregnant Females	Per Cent Abortion	Mortality Rate
1952	568	88	24	20.8	12.5%

TABLE II. TYPE OF POLIOMYELITIS BY STAGE OF PREGNANCY

No. Cases	Trimester	Spinal	Bulbar	Non-Paralytic	Bulbar-Spinal Combined
6 (25%)	1st.	2	0	4	0
6 (25%)	2nd.	3	1	2	0
12 (50%)	3rd.	8	0	0	4
24		13 (54.2%)	1 (4.2%)	6 (25%)	4 (16.7%)

Bowers and Danforth, in 1953, reviewed 586 proved cases of acute anterior poliomyelitis occurring during pregnancy and were able to add twenty-four new cases.

Hunter and Millikan, in August 1954, reported on forty-nine cases gathered from 1944 to 1952 at St. Mary's Hospital, Rochester, Minnesota. Baker and Baker, in 1949, reported on thirty cases from the Minneapolis General Hospital. It is the purpose of this paper to report an additional twenty-four cases admitted to Minneapolis General Hospital during the 1952 epidemic and to discuss the obstetrical management and follow-up of these patients.

During the 1952 poliomyelitis epidemic, there were 568 patients (Table I) with acute anterior poliomyelitis admitted to the Contagion Division of the Minneapolis General Hospital between July 3, 1952 and November 19, 1952. Of

the same year. This can be accounted for, since Minneapolis General Hospital is a referral center and one of the few hospitals equipped to care for the acute poliomyelitic patient in the Minneapolis area. It has been estimated that between 6.2 per cent and 11 per cent of the female population in the child-bearing age will be pregnant at any one time. Thus, it is noted that this figure (27.3 per cent) agrees with the statement that poliomyelitis is about three times as common in the pregnant woman as stated by Priddle, Anderson, Baker and Baker, and Taylor and Simmons. Anderson has proved this fact by three statistically sound methods in his very fine analysis of the 1946 epidemic in Minnesota. He also found that the exposure rate was higher in the nonpregnant woman than in the pregnant.

The ages of these women varied between nineteen and thirty-one years. Stages of gestation varied between eight and forty weeks.

From the Department of Obstetrics and Gynecology, Minneapolis General Hospital, Minneapolis, Minnesota.

POLIOMYELITIS COMPLICATING PREGNANCY—BERGQUIST AND SADLER

Bower and Danforth, in their review of the literature, found that the susceptibility of poliomyelitis did not vary with the stage of pregnancy. This has been documented by Anderson,

(25 per cent) cases occurred in the first trimester; of these four were nonparalytic, two spinal paralytic, and no bulbar. Only one patient in this group had severe residual, and

TABLE III. SEVERITY OF POLIOMYELITIS BY STAGE OF PREGNANCY

No. Cases	Trimester	Respirator	Mild	Severe	Deaths
6 (25%)	1st.	0	1	1	0
6 (25%)	2nd.	0	2	2	0
12 (50%)	3rd.	4	4	5	3
24		4 (16.7%)	7 (31.4%)	8 (33.3%)	3 (12.5%)

Horn, and Hunter and Millikan. In the present study (Table II), it was found that 25 per cent of the patients were in the first trimester, 25 per cent in the second, and 50 per cent in the third. Thus, it would appear that the patient in the third trimester was more likely to be affected than those in the first or second. This must be evaluated in light of the over-all picture.

There were three maternal deaths, giving a maternal mortality of 12.5 per cent. All of these patients had bulbar spinal-type poliomyelitis, and all were in the third trimester. Anderson found the fatality rate in nonpregnant cases to be 14 per cent, as against 11 per cent in the pregnant group. Hunter and Millikan found the mortality to be slightly lower in the pregnant group.

An increase in abortion rate might be expected, as in other severe febrile infections. Five (20.8 per cent) of the women in this group aborted. The length of gestation varied between eight and nineteen weeks. Of this group, three had nonparalytic, one bulbar, and one spinal paralytic poliomyelitis. This figure falls between 23 per cent stated by Taussig and 18 per cent given by Allan.

There is general disagreement in the literature as to the relationship of length of gestation and the severity of the poliomyelitis. Anderson found that the incidence, as well as severity, may be greater during the first half of the pregnancy. Priddle et al found the most severe cases of poliomyelitis in pregnancy occurred in the first six months of gestation. Nearly all of the earlier reviews^{4,7-9,13} have shown a greater incidence of residual paralysis and increased fatality rate in the last trimester. In the present study (Table III), six

one mild. The nonparalytic cases are those showing no weakness or paralysis at any time; mild are those who display some weakness or paralysis during the acute stage but have no disabling residual; and severe are those who have disabling involvement. Of the six cases occurring in the second trimester, two were nonparalytic, three spinal paralytic, and one bulbar. In this group, two had severe residual and two mild residual. There were twelve cases recorded in the last trimester; eight were spinal paralytic and four of the bulbar spinal type. Of this group, ten patients (83 per cent) have either died or have severe residual. There were four respirator cases in the entire group, all of which were in the last trimester. These cases are summarized below. Bowers and Danforth state that more than one-half of the maternal deaths occurred in the last trimester and in the puerperium. Cobb found that the mortality rate for poliomyelitis during the third trimester was greater than in the first two trimesters. Thus, in the present study, the most severe cases occurred in the last trimester. All patients with residual have reported some improvement in muscle function. Severe residual resulted in 33.3 per cent of the cases, and mild residual in 31.4 per cent. This represents a variance from the recent studies above; however, it may be one of the many vagaries of this disease or when considered as part of the whole picture may be of little significance.

Our findings (Table IV) agree with those previously published in that there was no statistical correlation between sex of the infant and outcome of the disease.^{2,15} There was a slight tendency for those infected late in pregnancy to be the mothers carrying a female fetus. Aycock reported there was a tendency

POLIOMYELITIS COMPLICATING PREGNANCY—BERGQUIST AND SADLER

for the disease to occur in the first trimester of pregnancy, if the fetus was a male, and in the third trimester, if it was female.

tion when first examined. The anesthesia of choice was pudendal block with 1 per cent procaine. No analgesic, amnesic or sedative drugs

TABLE IV. SEVERITY OF INFECTION BY SEX OF FETUS

	Male	Female	Undetermined	Total
Bulbar	0	0	1	1
Died	0	0	0	0
Severe	0	0	0	0
Mild	0	0	1	1
Paralytic	4	8	1	13
Died	0	0	0	0
Severe	4	3	1	8
Mild	0	5	0	5
Nonparalytic	3	1	2	6
Bulbar spinal	3	1	0	4
Died	2	1	0	3
Severe	0	0	0	0
Mild	1	0	0	1
Total	10	10	4	24

Management

The obstetrical management of the patient whose pregnancy is complicated by poliomyelitis, in the main, should be that afforded the normal pregnant woman.

The greatest danger to life in spinal paralytic poliomyelitis is involvement of the respiratory muscles, the diaphragm, and intercostal muscles.

In the bulbar form, the involvement of the soft palate gives rise to nasal regurgitation of fluid, absent gag reflex, and voice changes, and pharyngeal weakness is displayed by the pooling of secretions in the posterior pharynx. The above, together with involvement of the respiratory and vasomotor centers, present the greatest hazard to life. It is the patient so involved that is placed in the respirator. Drawing from the experience gained in the 1946 epidemic and that early in the present epidemic, it was found that the respirator patient could be handled much more adequately if tracheotomy was done when the patient was placed in the respirator. Oxygen was administered and the patient was bronchoscoped as necessary through the tracheotomy tube. Patients in the respirator were delivered by inserting an endotracheal tube into the tracheotomy opening and the patient's respirations assisted by manual compression of the oxygen bag. Thus, the obstetrician was able to deliver and repair the patient without hurry.

It was found that the pain threshold of the patients with severe involvement was high. A few patients were found to have advanced dila-

were allowed to avoid any further stress on the respiratory center.

The majority of the patients delivered spontaneously. In order to shorten second stage, outlet forceps were applied after complete dilatation if delivery was not immediate. No effect was noted on the strength of uterine contractions. It was felt that labors were definitely less painful and shorter than in normal pregnant women.

Some have suggested that the tumor of pregnancy in the last trimester imposes a burden on the patient's respirations and recommend cesarean section irrespective of prematurity.

Cobb, citing Plass and Oberst's work on respiratory physiology, points out the fallacy of this view. He states:

"During normal pregnancy there is a progressive increase in vital capacity, respiratory rate, volume of tidal air and minute volume of respired air. The diminished height of the pleural cavities is compensated by increased width. Normally, there is no embarrassment of respiration caused by, or related to pregnancy. Respiratory embarrassment in the pregnant woman with poliomyelitis stems directly from muscular paralysis resulting from the disease, and not the pregnancy. There are no acceptable data or other evidence to suggest that proper ventilation of patients in respirators is affected by a pregnant uterus near term."

Our Minneapolis General Hospital experience is in accord with Cobb's statement.

One may ask: What damage has been done to the infant by oxygen deprivation? How sound mentally and physically will it be? We have one infant delivered vaginally of a mother (Case 4) who appeared terminal. She had

marked cyanosis, a high fever and pulse, and suffered many convulsive seizures, but survived. Follow-up on this infant shows it to be normal as of this date.

Report of Cases

Case 1.—A twenty-three-old woman, gravida 1, para 0, was admitted in September, 1952, in the thirty-fifth week of gestation with generalized muscle aching, malaise, headache, chills, fever, nausea, frequent gagging, and sweating. The temperature was 102.8°F per rectum. Examination of cerebrospinal fluid disclosed 65 cells, of which 29 per cent were lymphocytes and 36 per cent were polymorphonuclear leukocytes per cubic millimeter. Physical examination revealed a pulse of 116 per minute, and respiratory rate of 28 per minute. The patient's voice was nasal in quality and there was pooling of secretions. The heart was enlarged, and a loud pulmonary second sound with grade 3 systolic apical murmur and rumbling diastolic murmur over the mitral valve was heard. A diagnosis of mitral stenosis and insufficiency, compensated, and bulbar spinal poliomyelitis was made. The lower intercostal muscles appeared to be functionless bilaterally. There was bilateral hamstring weakness with weakness bilaterally in the quadriceps and adductors.

The patient's course was one of progressive deterioration, and on the third hospital day, a tracheotomy was done and the patient placed in a respirator. She seemed to improve slightly shortly thereafter. The patient was still unable to handle the secretions, and the bronchoscope was used repeatedly. A gastric tube was passed to relieve gastric dilation. The temperature rose to 106°F and pulse to 240 per minute. Digitalis was administered, and pulse rate dropped to 108. The patient became mentally confused, had seizures and cyanosis, and died four days after admission. A postmortem cesarean section was done, and a stillborn, female infant, weighing 3050 grams, was delivered. Permission for necropsy was not granted on either patient or infant.

Case 2.—A twenty-eight-year-old woman, gravida 11, para 1, was admitted in September, 1952, in the thirty-fifth week of gestation. The symptoms of backache and headache had occurred six days prior to admission. She had been admitted to one of the private hospitals because of nausea, vomiting, and urinary retention. At that time weakness in the lower extremities had been noted and examination of the cerebrospinal fluid revealed 100 cells, 98 per cent of which were lymphocytes and 2 per cent polymorphonuclear leukocytes. The evening prior to admission the respiratory rate was 40 per minute and patient was using accessory muscles for respiration. She was then transferred to Minneapolis General Hospital because of inadequate facilities. Physical examination on admission revealed a respiratory rate of 40 per minute with completely inactive intercostal muscles, bilateral foot drop, and generalized weakness of all muscles of upper and lower extremities. The patient was placed in a respirator upon arrival. She appeared to adjust promptly with marked improvement in color. She appeared to be doing fairly well the first

two days of her hospital stay; however, on the third day, her pulse rose to 290 per minute. Administration of digitalis resulted in a drop in pulse to 160 per minute. The temperature rose to 103°F, and the following day the patient became disoriented and finally semicomatose. On her sixth and last hospital day, it was felt a tracheotomy was indicated; however, an attempt to obtain a chest x-ray was made. During this procedure, the patient became cyanotic and was immediately put back into the respirator. The patient died one hour later. A postmortem cesarean section was done, and a living male infant weighing 3000 grams was delivered. The heart beat was heard for approximately five minutes, but the infant made no attempt at spontaneous respiration. The infant was covered with a fine vesicular rash, and the maternal surface of the placenta was covered with many small fresh hemorrhages. Permission for necropsy on the infant was not granted. Postmortem examination of the patient disclosed acute bulbar spinal poliomyelitis.

Case 3.—A twenty-eight-year-old woman, gravida III, para II, was admitted in October, 1952, in the thirtieth week of gestation. Prodromal symptoms had been noted five days prior to admission. On admission, the lower intercostal muscles were not functioning; there was weakness of lower extremities in both abductors and adductors. The cerebrospinal fluid contained 650 cells of which 92 per cent were polymorphonuclear leukocytes and 8 per cent lymphocytes. Respiratory effort increased during the next few days. A rocking bed was tried with little help. On the fourth hospital day, a tracheotomy was done and the patient was placed in a respirator. The patient remained stable for the next two days; however, on the twelfth hospital day, she became unresponsive and cyanotic. During the next two days, the patient required repeated bronchoscopy. Her condition was such during the last forty-eight hours that the house staff on obstetrics was repeatedly alerted for the possibility of postmortem section. The pulse increased and blood pressure dropped steadily. The patient expired on her fourteenth hospital day. A postmortem cesarean section was done, and a stillborn male infant weighing 2050 grams was delivered. Necropsy was not permitted on the infant; however, necropsy on the patient confirmed the diagnosis of acute bulbar spinal poliomyelitis.

Case 4.—A twenty-six-year-old woman, gravida II, para I, was admitted August, 1952, in the thirty-second week of gestation. On admission, back and hamstring stiffness was noted. The cerebrospinal fluid contained 180 cells, of which 26 per cent were polymorphonuclear leukocytes and 74 per cent were lymphocytes. On the third hospital day, palatine paralysis was noted together with marked increase in respiratory effort. Tracheotomy was done, and the patient was placed in a respirator. The patient noted mild abdominal cramps on the third hospital day. Examination revealed the head at Station -3 with no cervical dilation. The patient now had severe involvement of the lower extremities. On the seventeenth hospital day, the patient had seizures of the grand mal type about every twenty minutes and became non-responsive. Uterine contractions were noted every two minutes, of twenty seconds' duration. The cervix was 4

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cm. dilated, head at Station 0. The contractions increased in duration and force. Membranes were ruptured artificially six and one-half hours after onset of labor. The fetal heart rate was 126 per minute in the right lower quadrant, the cervix 8 cm. dilated, and head at station

One cesarean section was done at thirty-one weeks because of essential hypertension with superimposed severe pre-eclampsia. The infant weighed 850 grams and died after eight hours.

TABLE V. FETAL SALVAGE

	Abortion	Term L & W	Neonatal Death	Stillborn	Preme L & W	Living	Dead
First Trimester	3	0	2	1	0	0	6
Second Trimester	2	4	0	0	0	4	2
Third Trimester	0	7	1	3	1	8	4
Total	5	11	3	4	1	12	12

plus 1. The patient was removed from the respirator. An endotracheal tube was inserted into the tracheotomy tube, and the patient's respirations assisted by manual compression of the bag. A living premature male infant was delivered as an occiput posterior presentation after rotation from a right occiput transverse position. The infant weighed 2239 grams and breathed and cried spontaneously. Bleeding during the third stage was approximately 150 cc. The patient was removed from the respirator and placed on a rocking bed three days after delivery.

The patient was discharged later on, on the one hundred and twenty-seventh hospital day, with complete paralysis of both lower extremities.

Fetal Outcome

The outcome of the pregnancies (Table V) is of interest in that the fetal loss in this study was 50 per cent. Hunter and Millikan had a fetal loss of 32 per cent; Bowers and Danforth reported 33.3 per cent.

There were eleven (45.6 per cent) living term infants delivered. These were term size, the largest weighing 3798 grams and the smallest, a twin, weighing 2367 grams. Bowers and Danforth reported that the majority of the term infants in their series were smaller and developed more slowly than the average. Follow-up studies in the present series revealed normal growth and development. There is only one other infant living and well to date; this was a thirty-four-week premature infant weighing 2239 grams.

Of the remaining twelve pregnancies (Table VI), five ended in abortion and two with stillborn premature infants. Three postmortem hysterotomies were done; two term infants, whose birth weights were 3000 grams and 3050 grams, and a premature infant weighing 2050 grams were delivered. One term infant lived for five minutes. The other two infants were stillborn.

TABLE VI. FETAL LOSS TWENTY-FOUR PREGNANCIES (TWENTY-FIVE INFANTS) COMPLICATED BY POLIOMYELITIS

Cause of Fetal Loss	Number
Abortions	5
Pre-eclampsia with essential hypertension (neonatal 31 wks) (Necropsy—atresia of ileum)	1
Bulbar Spinal Poliomyelitis (Post mortem cesarean section—2 stillborn; 1 lived 5 minutes)	3
Spinal Paralytic Poliomyelitis	2
Stillborn 28 and 30 wks' gestation	1
Premature rupture of membranes 31 wks' gestation	1
Total	12 (50%)

Necropsy disclosed atresia of the ileum and pneumonia. This infant and a term infant with talipes calcaneus and congenital dislocation of the hips represent the only congenital defects found in this group. This supports the view that there is no increase in congenital abnormalities in infants born to women with acute poliomyelitis.

The last infant in this group was delivered at thirty-one weeks after premature rupture of the membranes. It weighed 1512 grams and died fourteen hours later with atelectasis.

This represents a fetal salvage of only 50 per cent, far lower than previously reported.

There have been 10 subsequent pregnancies with nine living term infants in the twenty-one remaining patients. One patient, in the severe group, aborted at two months but is at present in the third month of gestation. Two other patients were in the severe group, four patients in the mild group, and three patients in the nonparalytic group. All labors were relatively short, the longest being eleven hours and the shortest twenty minutes, with the average being 5.7 hours. One repeat cesarean section was done for a generally contracted pelvis.

Thirteen women reported no change in men-

strual pattern; the remainder showed no marked variation.

Discussion

Twenty-four additional cases of poliomyelitis complicating pregnancy are presented.

The early use of tracheotomy in respirator cases, together with judicious use of bronchoscopy through the tracheotomy tube, was perhaps the most important advance in the care of the patient in this series.

Early in the epidemic, it was felt that the use of an endotracheal tube, placed into the tracheotomy and thus artificial respiration carried out, might aid in the maintenance of the patient outside the respirator during delivery. This was done and found to be very satisfactory.

Postmortem hysterotomy is not the answer to fetal salvage. Time must await the evolution of some other manner of delivery.

In this series, the severity of the residual and mortality was greater in the last trimester than in the first two. This agrees with the earlier reports. This once again points out the varied behavior of this disease.

The increase in attack rate in the pregnant woman, as against the nonpregnant, points out the fact that some other factor, perhaps hormonal, plays an important role in the susceptibility to poliomyelitis.

In a personal communication, Dr. Gaylord Anderson states that the attack rate of bulbar poliomyelitis during epidemics is in a ratio of 1:10 in persons without tonsillectomy, as compared to 1:3 in those who have had tonsillectomy.

Perhaps because of relaxed perineal muscles and high pain threshold, the labor and delivery of patients with poliomyelitis is somewhat easier.

Conclusions

1. Incidence of poliomyelitis in adults is apparently increasing.
2. The exposure rate is higher in the nonpregnant woman, but the attack rate is apparently higher in the pregnant woman.
3. Mortality rate is not any greater in the pregnant woman with poliomyelitis than in the nonpregnant.
4. In this study, the mortality rate and severity of residual was greatest during the

third trimester, thus showing the varied picture this disease can present.

5. The abortion rate was no higher than expected for the general population.
6. Labors were shorter and less painful in patients who have had poliomyelitis.
7. The labor was conducted according to accepted standards.
8. Labor and delivery of subsequent pregnancies appears to be easier than in the normal pregnant woman.
9. Prompt tracheotomy, endotracheal suction, bronchoscopy, and positive pressure administration of oxygen greatly facilitated delivery of the respirator cases.
10. Analgesic, amnesic, and sedative drugs are interdicted.
11. Pudendal block with procaine was adequate anesthesia for most cases.
12. Postmortem hysterotomy was unsuccessful to effect fetal salvage.
13. Growth and development in surviving infants were normal.
14. Fertility is apparently not affected by poliomyelitis.
15. There is no change in the menstrual pattern in patients who have had poliomyelitis.

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Enigmas in Lymphoma

Reticulum Cell Sarcoma and Mycosis Fungoides

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PERTINENT to this title is Alice's remark to the Mad Hatter, "I think you might do something better with the time than wasting it in making riddles that have no answers." There exists no serious conviction that another analysis of the obscurities of malignant lymphoma

an effort to dilute embarrassment by sharing it more widely.

Reticulum Cell Sarcoma

Insular intolerance with respect to the "reticulum cell" is much in point. There are three

TABLE I. NOMENCLATURE NOTED IN LITERATURE

<i>Reticulum Cell</i>	
Reticular cell	Primitive mesenchyme
Reticulocyte	Mesenchymal cell
Reticulum	Primitive blood cell
Syncytial reticulum	Stem cell
Reticuloendothelial cell	Hemohistioblast
Common lymphoid stem cell	Hemocytoblast
Lymphoidocyte	Hemoblast
<i>Reticulum Cell Sarcoma</i>	
Reticular cell sarcoma	Reticulosarcoma
Reticulum cell lymphosarcoma	(Diffuse syncytial, trabecular, syncytial, dictosyncytial, polymorphic)
Reticular celled lymphosarcoma	Reticuloendothelial sarcoma
Large cell type lymphosarcoma	Reticuloendothelioblastoma
Large round cell sarcoma	Retothelsarcoma
Reticulocytoma	Endothelial sarcoma
Reticuloma	Hodgkin's sarcoma
	Stem cell lymphoma

will convert a single adherent from any of the existing viewpoints. Nonetheless, a critical search into the fogged realm of meaning as it pertains to "reticulum cell sarcoma" and "mycosis fungoides" may provide an opportunity for reappraisal of the impasse to which we have been led.

It is a curious characteristic of man that he presumes a universality of understanding of words and names among his fellows. Indeed, this quality is often carried to the point of presumption that a difference in interpretation reflects an impaired intelligence. It is hazardous to exploit discord, but this study represents

common forms of response to its usage: (1) a silent assumption that the term is meaningful, (2) the requirement of acceptance of rigid criteria for identification or (3) acrimonious debate. It is proposed to outline the recorded facts and abstractions that have found their way into our literature and beliefs. Certain definitions of terms would seem essential.

Dictionaries mirror current opinion, although they rarely control it. It is of interest, in passing, to observe the definitions provided in these media for the term "reticulum." This is variously described as an interstitial tissue composed of anastomosing branched cells; as an intricate network of extracellular fibrils; and, as a fibrillar network within the cytoplasm of cells. The terms "reticulum" and "reticulin" are offered as identical, related or dissimilar entities. The "reticulum cell" is related to the

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"reticular cell" which in turn is identified with reticular tissue, said to form the framework of lymph nodes, spleen and bone marrow. The variations of synonyms devised have been legion. (Table I).

One should rightfully hesitate to poll any enlightened group as to its consensus in this situation. It is obvious that a variance of this order is prophetic of the confused state which may be anticipated. A note of frustration is

TABLE II. RETICULUM CELL SARCOMA
Histologic Characteristics as Noted in Literature*

Size of Reticulum Cell		Giant Cells	
Large	9	Frequent	5
Small	8	Rare	4
12-15 μ	3	Absent	3
15-22 μ	3	Resemble Reed cells	5
22-50 μ	4	Do not resemble Reed cells	4
Configuration of Reticulum Cell		Cytoplasm of Reticulum Cell	
Syncytial	20	Abundant	14
Pseudopodal	10	Scant	13
Ill defined	7	Clear	6
Polygonal	4	Granular	5
Stellate	3	Basophilic	6
Round or oval	6	Eosinophilic	14
Fusiform	3	Neutrophilic or amphophilic	8
Varied combinations	14	Phagocytic	9
		Nonphagocytic	5
Nuclear Characteristics			
Large	6	Round or oval	14
Small	5	Reniform	9
Varied	4	Lobulated, irregular	9
2 - 7 μ	3	Mitosis, frequent	10
7 - 10 μ	3	Mitosis, rare	3
10 - 12 μ	2	Mitosis, absent	3
		Membrane folded	2
		Vesicular	27
		Hyperchromatic	5
		Pale or even staining	7
		Membrane distinct	10
		Membrane thick	6
		Membrane thin	3
Nucleolus			
Prominent			20
Not prominent			9
Absent			4

*The numbers indicate the number of references agreeing with each category.

However, these are dry, didactic matters and etymology has a small place in biologic progress. It is well to proceed to the definitive contributions of cytologists.

In this dynamic era, the moving force in pathology is the recognition of functional characteristics. It appears that there are six widely held views of the nature of the reticulum cell. These are:

1. A phagocytic cell and/or its precursor.
2. A primitive element with totipotential blood-forming qualities.
3. A primitive element capable of forming blood cells or mesenchymal stroma.
4. A fibril or stroma-producing element related to the fibroblast.
5. An endotheliumlike cell lining vascular spaces.
6. A cell combining two or more of the above qualities.

encountered whenever efforts are made to establish conformity of criteria in the diagnosis of reticulum cell sarcoma. It is patently impossible for all of these functions to represent the potentialities of any one cell or system of cells, unless it be the mesodermal anlage, in which case it would be necessary to add certain other capacities. Such an effort would be purposeless with available knowledge, for as Haining and co-workers¹³ have said, "—the ancestry of cells, like the ancestry of human beings, is often easy and pleasing to claim, but hard to verify."

Whatever the opinion of the nature of the reticulum cell, there is some uniformity of thought that reticulum cell sarcoma is the product of the neoplastic overgrowth of this element. Table II, tabulating the cytologic criteria which have the dignity and authority of publication in reputable medical journals, reflects the existing discord. The number of citations list-

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ed in relation to each observation enumerated is varied; the authors often omit note of salient characteristics, presumably with the blithe implication that the reticulum cell is well known

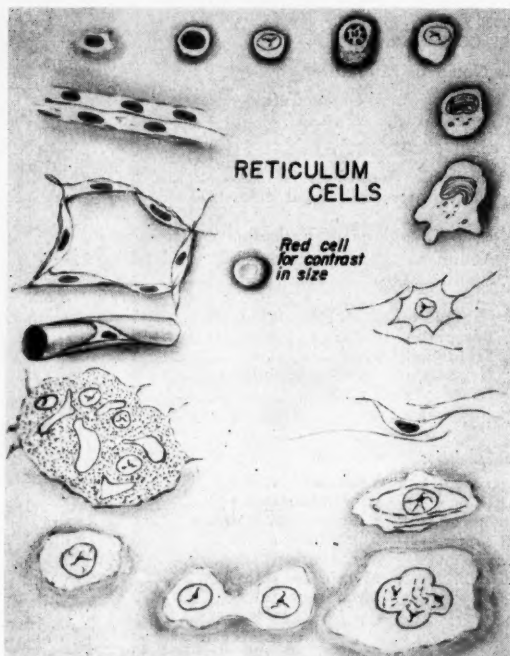


Fig. 1. Sketches representing an effort to reconstruct the appearance of the "reticulum cell" from the various descriptions available in the literature.

to all. The lack of uniformity of opinion may be appreciated by reference to Figure 1, which represents an effort to reconstruct the form of the reticulum cell from the descriptions encountered in the literature. The wide disparity in cytoplasmic and nuclear features manifested may be attributed in some part to variations in histologic techniques employed but this may, by no means, be taken as the total explanation. One can only conclude that the appellation "reticulum cell sarcoma" is loosely used and, as Gorer¹² has indicated, is usually applied to tumors comprised of "any large, incompletely mature cell not otherwise assignable."

Moreover, the issues do not cease at the confines of the reticulum cell itself. There is little consistency of viewpoint in the relationship of the cell to the "reticulum" or whatever one may wish to name this argyrophilic fibrillar substance. Table III summarizes some of the observations which have been encountered.

TABLE III. RETICULUM IN RETICULUM CELL SARCOMA AS NOTED IN LITERATURE*

Reticulum noted	32
Reticulum not noted	22
About single cells	8
About vessels	4
Within cells	6
Cells apposed to	8
Cells connected by	3
Sheathed by syncytium	3

*The numbers indicate the number of references agreeing with each category.

Insistence upon the presence of the fibrils as a pathognomonic requirement is countered by the contentions that they represent residua of pre-existing stroma or the result of non-specific tissue reaction to neoplastic insult. Even among those who recognize a relationship to the tumor cell, there is no harmony as to location or distribution.

Obviously, there is no incontrovertible solution. To debate the nature or derivation of a cell which has so many different intellectual implications and which, in its tumor phase, has never been pontifically designated must lead to defeat. Perhaps a momentary pause for reflection would be judicious. It may serve a purpose to proceed to the other horn of the self-imposed dilemma.

Mycosis Fungoides

As one peruses the proceedings of dermatologic societies, it appears that the concept of mycosis fungoides has attained at least a superficial level of accord. All but a few dissidents appear to concur in the proposition that mycosis exists as a clinical entity. Described almost a century and a half ago,¹ there is general acceptance of the syndrome of a chronic cutaneous disorder proceeding through three characteristic phases. It is conceded that certain forms of disseminated, pruritic dermatitis may continue persistently or intermittently for long periods of years, ultimately exhibiting an infiltrating or plaque-forming phase and terminating in what has been designated a tumor or fungoid state. The inevitability of these transitions has been challenged, but the over-all characteristics have broad acceptance. There are those who recognize a *forme fruste* classified as the "d'emblee variety" in which the earlier two phases are omitted² but others consider this lesion to be unrelated to mycosis fungoides.⁴

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TABLE IV. CONDITIONS DESCRIBED IN LITERATURE DURING PREMYCOTIC STATES

Dermatitis, allergic
Dermatitis, contact
Dermatitis, exfoliative
Dermatitis, herpetiform
Dermatitis, neuro
Dermatitis, seborrheic
Dermatitis, venenata
Eczema
Erythema multiforme
Erythroderma
Iododerma
Lichen planus
Parapsoriasis
Pemphigus
Pityriasis rubra pilaris
Poikiloderma atrophicum vasculare
Pompholyx
Prurigo mitis
Psoriasis
Ringworm
Rupoid syphilis
Urticaria

Despite the whispers of conflict in these general matters, an air of concord exists. Unfortunately, as an analysis of hypotheses proceeds beyond this point, dissonance intrudes itself. Fraser⁸ has listed nine notions relating to the pathogenesis of mycosis; these may be modified and condensed in mildly controversial modern parlance as follows:

1. A granulomatous inflammatory disorder of the skin which (a) remains of this order throughout its course, (b) is transformed into a lymphomalike lesion or (c) is transformed into frankly evident lymphoma. In relation to the two latter eventualities, there is dispute as to whether these occur occasionally, usually or invariably.

2. A malignant lymphoma of the skin which (a) remains restricted to the skin or (b) is distributed in skin, lymph nodes and viscera.

3. A cutaneous manifestation which is secondary to an underlying systemic lymphoma.

Nor are the differences limited to general questions of pathogenesis. They also appear in regard to the specificity of the microscopic lesion during the premycotic state, the inevitability of the fatal chain of events once the early stages of the ailment have been initiated, and, as has been remarked, the identity of the d'emblee phenomenon with mycosis fungoides.

There are few who now hold to the original hypothesis of Alibert that mycosis fungoides is an infectious disorder. More generally accepted, currently, is the belief that the prolonged inflama-

TABLE V. CUTANEOUS LESION OF MYCOSIS FUNGOIDES NOTED IN LITERATURE

(Fungoid Stage—129 Cases)

Hodgkin's	12
Hodgkin's-like	14
Hodgkin's sarcoma	3
Reticulum cell sarcoma	14
Lymphosarcoma	18
Stem cell lymphoma	2
Lymphoblastic lymphoma	5
Lymphocytic lymphoma	7
Lymphatic leukemia	14
Myeloid leukemia	2
Monocytic leukemia	1
Plasmacytoma	3
Reticuloendotheliosis	3
Lymphoma	1
Nonlymphomatous	28
Unknown	2

tory process ultimately becomes transformed into malignant lymphoma or a lymphomalike lesion of the skin. Rigidity of requirements by some authorities would eliminate those cases from the category of mycosis in which the lymphomatous lesions do not supervene, but there are others who would discard the cases in which it does become manifest. Moreover, there are those who maintain that the clinical features are sufficiently characteristic that mycosis may be said to exist whatever the nature of the histologic changes.

On the other hand, the claim that meticulous study of biopsy material procured during the early premycotic state will provide cytologic evidence presaging the florid condition to come is belied by the frequency with which seemingly banal inflammatory lesions have antedated the fungoid stage. Table IV lists the many conditions which have been recorded during the premycotic phase. Obviously, since these represent the observations of many competent clinicians and pathologists, the thesis of inevitability of the tumor state must be a myth. It is remarked by Sutton and Sutton²⁵ that the earlier lesions "are as capricious in their course as they are variable in their aspect." In fact, Highman¹⁴ has stated, "Mycosis is too often predicted in the presence of plain psoriasis or parapsoriasis and many a Delphian dermatologist must swallow his oracular words, as the doomed patient continues to live happily with his eruption, never to get mycosis." One may, of course, extend refutation of this theme to the ridiculous by requiring that no individual with a suspect chronic dermatitis be given a clean bill with respect to mycosis fungoides unless he has lived his full allotment of years and then has had a complete

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necropsy examination, the findings of which have had the concurrence of an unimpeachable jury of dermatologists, hematologists, pathologists and logicians.

cases. Table VI lists eighty-eight cases of mycosis fungoides encountered in a survey of the literature. In each instance necropsy examination was carried out. Twenty-eight (32 per cent) exhibited

TABLE VI. EXTENT OF INVOLVEMENT IN MYCOSIS FUNGOIDES
(Eighty-eight Necropsies Noted in Literature)

Author	Cases	Skin only	Skin and viscera
Allen ²	21	18	3
Berman ³	18	2	16
Cawley et al ⁵	10	2	8
Forbus ⁶	1	1	0
Fraser ⁷⁻¹⁰	5	1	4
Gates ¹¹	15	1	14
Keim ^{15,16}	8	0	8
Lanc and Greenwood ¹⁷	1	0	1
Miller ¹⁸	1	0	1
Oliver ¹⁹	1	0	1
Ormsby and Finnerud ²⁰	1	1	0
Pardee and Zeit ²¹	1	0	1
Post and Lincoln ²²	2	1	1
Sigel ²³	1	1	0
Stratton ²⁴	1	0	1
Wertheim and Smith ²⁶	1	0	1
Total	88	28	60

Whatever the prophetic quality of the premycotic lesion, there is little evidence to contradict the proposition that in its infiltrative and fungoid stages the lesion commonly assumes a structure closely akin to that of malignant lymphoma. As indicated in Table V this, however, is by no means always the case. In the collection of 129 cases listed, in thirty (perhaps thirty-three) instances the florid lesion attained was not identified as lymphoma. It would appear, therefore, that a significant number of patients with mycosis fungoides in its terminal nodular phase, albeit a minority, fail to show evidence of neoplastic metamorphosis. If one were to add to these cases those equivocally classified as "Hodgkin's-like" and as "reticuloendotheliosis" the nonneoplastic group might be considered even more impressive.

The matter of distribution of lesions in the ultimate infiltrative and nodular phases, whether or not the alterations are neoplastic, requires critical probing. Berman³ has indicated that an evaluation of the recorded cases which have reached necropsy reveals that almost all of these have shown lymph-node and visceral dissemination. This contention has found many adherents and is frequently quoted in the standard texts of pathology. The inability of earlier writers to recognize the frequency of dissemination has been ascribed to a failure of thorough and critical study. On the other hand, Allen² has observed visceral lymphoma in comparatively few of his

no evidence of extracutaneous distribution of lesions. These results are somewhat weighted by three series in which visceral involvement occurred in thirty-eight of forty-three cases and one in which this occurred in only three of twenty-one cases. Since these represent selections from the literature and from collected cases at consultation centers, an element of overlap of single case reports also published may be conceded.

A fortunate circumstance has permitted the direct examination of case records, and post-mortem protocols and tissue from forty-one patients with mycosis. A composite of this personal experience with that garnered from the reports of others is shown in Table VII. Although there is only a slight change manifested in the over-all incidence of visceral lesions, the personal series exhibits a bare majority of cases without this phenomenon. It must be clear, however, that mycosis, in its advanced stages, need not present itself as a systemic disorder, at least in relation to the appearance of visceral lymphomatous lesions.

A closer analysis of the forty-one cases comprising the personal study brings to light the fact that the absence of cutaneous lymphoma constitutes no deterrent to the development of disease of this character in lymph nodes or organs (Table VIII). This may be taken casually to support the opinion that mycosis fungoides is merely a cutaneous reflection of visceral lymphoma. On the

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other hand, the number of instances in which the reverse was the case, coupled with the well-documented observations of patients whose cutaneous lesions antedated the appearance of neoplasm,

with capacity to form any or all mesenchymal elements falls into the realm of uncompleted embryologic research. If the function of phagocytosis constitutes its fundamental qualities, whether

TABLE VII. EXTENT OF INVOLVEMENT IN MYCOSIS FUNGOIDES NOTED AT NECROPSY

	Literature	Personal*	Combined
Skin only	28 (32%)	22 (54%)	50 (39%)
Skin and viscera	60 (68%)	19 (46%)	79 (61%)
Total	88	41	129

*Includes 21 cases from the files of the Armed Forces Institute of Pathology. The remainder were gathered from a number of institutions, including the Massachusetts General Hospital and the Cincinnati General Hospital.

TABLE VIII. RELATIONSHIP BETWEEN CUTANEOUS NEOPLASIA AND VISCERAL LYMPHOMA IN MYCOSIS FUNGOIDES AT NECROPSY

(Forty-one Cases—Personal)*

<i>Cutaneous Lesions: Nonneoplastic</i>	17
Viscera uninvolved	13
Visceral lymphoma	4
<i>Cutaneous Lesions: Neoplastic</i>	24
Viscera uninvolved	9
Visceral lymphoma	15

*The author wishes to express appreciation to the Director, Armed Forces Institute of Pathology, Washington, D. C., for the opportunity to examine and include herewith data from twenty-one cases in the files of the Institute.

wherever located, by two to four decades, makes this contention a very tenuous one.

Comment

Despite the tenor of this presentation, there is a desire to be neither specious nor facetious. Semantic diversity in medicine of the order disclosed, unfortunately, is not peculiar to hemopoietic disorders. Moreover, merely spotlighting the issues will not serve as a substitute for solution. Having created a muddy roil, one cannot just smugly step aside, although there is little anticipation of an effect upon custom. Efforts at simplification of complex situations have many disadvantages, not the least of which are their failure to satisfy any but their initial proponents.

If the term "reticulum cell" is to be used, it must have considerably clearer definition than now exists. In essence, it cannot continue to mean all things to all men. If it is taken to indicate a primitive totipotential blood-forming element, the terms "primitive blood cell," "hemocytoblast" or "stem cell" are clearly more definitive and have had traditional usage. Its morphologic characteristics have been widely delineated and need not concern us here. The consideration of the cell as having relationship to primitive mesenchyme

or not the cell is mature, the term "histiocyte" cuts across the welter of phraseology which has plagued this subject for well over half a century and, further, has the acceptance of the Committee for Clarification of the Nomenclature of Cells and Diseases of the Blood and Blood-Forming Organs (Fourth Report). This cell, too, has well and widely recognized morphologic features. The belief in a relationship to ordinary vascular endothelium has few adherents; it is generally regarded that the littoral sinus cell is closely akin to the histiocyte.

Since the argyrophilic fibrillar net comprising the framework of lymph nodes, spleen and other body structures has been shown to have the characteristics of collagen, the element instrumental in its production must be the fibroblast, whether or not this in turn may be derived by metamorphosis of still another cell. Needless to state, the fibroblast has well-recognized morphologic characteristics. The term "reticulum" should, in the interests of clarity, be reserved for descriptive purposes only and should not designate a concept, a system, a specific element or a tissue potentiality. Those devoted to the latter viewpoints should recognize the misconceptions which have grown out of their acceptance.

It is proposed, therefore, that there is no such entity as a reticulum cell and that reticulum cell sarcoma, as recorded in the literature, consists of a group of conditions related only in that they represent primary neoplasms of hemopoietic tissue. Uniform understanding may be expected only if lesions of this type are classified in terms of recognizable qualities (functional and morphologic) of their component cells. In those instances in which specific cellular identification is not possible, it is proposed that one use a recognizable generic term indicating neoplasm and tissue of

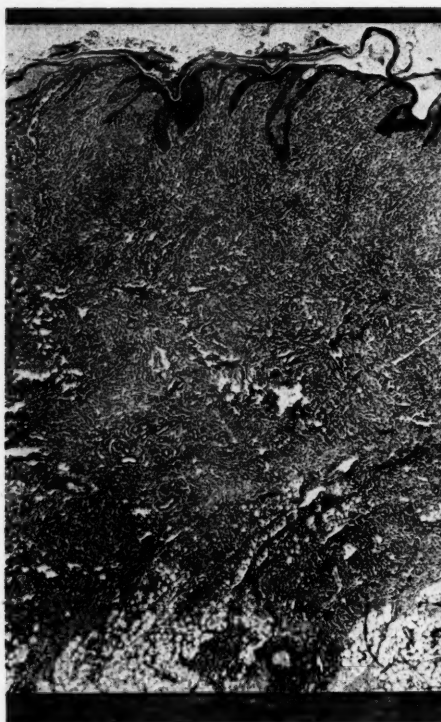


Fig. 2. Low-power photomicrograph of the skin in mycosis fungoides in the nodular phase. There is a dense cellular infiltrate proceeding in irregular fashion into the subcutaneous fat.



Fig. 3. (above) Medium-power view of the cutaneous lesion in classic mycosis fungoides during the plaque stage. The heavy lymphoid infiltrate of the corium is accompanied by intra-epidermal invasion (Darier-Pautrier abscesses).

Fig. 4. (below) The fungoid stage of mycosis fungoides. A high-power view of the corium demonstrating the pleomorphic cellular character of the lesion.

origin, such as malignant lymphoma or lymphoblastoma.

The characteristic train of events of the clinical syndrome of mycosis fungoides and the long, relatively satisfactory usage of the term dictate its retention. It is necessary, however, to attempt to set in proper perspective certain aspects of the disorder which seem to have had varying interpretations. The three characteristic phases as described above are rather universally appreciated. On the other hand, there is a sizable body of evidence to suggest that the process does not necessarily proceed inexorably through each stage to a fatal conclusion. It would seem that any one of a considerable number of forms of chronic dermatitis may, but do not always, lead to the series of alterations representing mycosis fungoides.

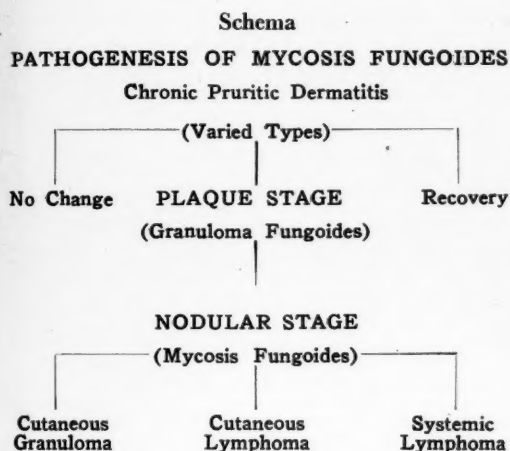
Thus, the diagnosis rests on hindsight and not upon prophetic foresight. When, however, the cutaneous lesion assumes, as it may, the features of the second (infiltrative and plaque) stage, the

procession of events becomes more nearly inevitable. In contradistinction to the alterations in the initial process, the lesion at this stage appears to be pathognomonic. Characteristic are a peculiar pleomorphism with relatively aggressive mitotic proliferation of histiocytes, an intermixture of other leukocytes, the presence of bizarre giant cells (usually symplastic reactive elements, occasionally simulating Sternberg cells), deeper extension into the corium and intra-epidermal invasion in the form of "Darier-Pautrier abscesses" (Figs. 2, 3 and 4).

The great majority of cases in which this phase has been attained may be expected to progress to the stage of exuberant nodule formation. In a few, these fungoid masses retain the pleomorphic pattern of the second stage and do not develop lesions meeting the cytologic requirements of neoplasm. A few assume an appearance retaining some of the inflammatory polymorphism subtly altered to simulate Hodgkin's disease. Most cases

at this point, however, exhibit widespread, but not necessarily universal, frank conversion into one or another of the forms of malignant lymphoma. There is no uniformity in the type of lymphoma produced.

Of the group in which mycosis has advanced to this point, a sizable number succumb without specific alterations of lymph nodes, blood or viscera. On the other hand, over half of the patients at necropsy reveal extracutaneous distribution of the lymphomatous lesions, which may even be accompanied by leukemia.



The accompanying schema represents an effort to demonstrate this pathogenetic concept in graphic form. This schema is open to the usual charges of over-simplification and presumption but data advanced in the body of this paper seem to warrant such a contrivance. There is certainly no evidence to justify the contentions that mycosis fungoides is neoplastic or even a specific process at its outset. Moreover, the sequence of transitions, although seemingly immutable at the fatal conclusion of the disease, does not seem to be so in the initial phase. It is probable that a goodly number of patients considered to have a premalignant lesion fail to show progression or may even exhibit remission of the dermatitis. Such instances, naturally, would uncommonly find their way to publication. Finally, among those persons who eventually do exhibit the final fungoid lesions, these are not invariably lymphomatous, nor when they are, is there always visceral lymphoma. The possibility that lymphomatous transformation represents the effect of long-continued irritation of

varied nature upon the skin and lymphoid tissue represents an interesting, albeit tenuous hypothesis.

Summary

1. A survey of the pertinent literature indicates a serious incompatibility of opinion with regard to reticulum cell sarcoma and mycosis fungoides.
2. There appears to be no satisfactory means of bringing into harmony the expressed views on either the form or the function of the reticulum cell.
3. It is proposed that the term be avoided and that more definitive appellations be employed in designating the several cells which have apparently heretofore been placed in this category.
4. The diversity of viewpoints in the pathogenesis of mycosis fungoides seem resolvable if the recorded observations are properly apportioned.
5. By utilization of data derived from the literature and from a sizable personal experience, a seemingly valid pathogenetic thesis is evolved.

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(Continued on Page 705)

Will Analgesia Evolve from a Century of Anesthesia?

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MAY I assert, first, that I am not advocating use of a particular drug but expounding an idea. I am, furthermore, continuing to entertain the hope that a new, safer, more pleasant era in the art and science of pain-relief may be in the offing—perhaps not far in the offing.

For thirty years, I have sought to produce a general condition, wherein the patient would retain some consciousness but at the same time his sensibility to pain would be so reduced that he would tolerate some operative pain. He might even remember something of the operative procedure but would not have been hurt enough to complain—then or later. To designate that state, in my own mind, I have used a term which has varying significance to various people. I have called it "analgesia." For the purposes of this presentation, therefore, when I use the word will you please think of the state I have described? If an etymologist will suggest a new and precise term, such as Oliver Wendell Holmes offered to Morton on November 21, 1846,¹ I, and doubtless others, will welcome his contribution. Because of the pronounced forgetfulness of recent events which attends use of the new drug, Victor Cohn has suggested the term "controlled amnesia."

Chronologic Periods in the Modern History of Generalized Pain-relief

Leaving out of consideration here local and regional measures for combating pain, three peri-

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The Mayo Foundation, Rochester, Minnesota, is a part of the Graduate School of the University of Minnesota.

ods in the science and art of pain-relief can be distinguished. The boundaries are not absolute for sometimes, in one period, an experience was had which foreshadowed a later period. The expected results, however, were prevailingly those now to be described:

The first period was that in which various agents were used to produce general anesthesia. The patient was unconscious and tactile sensibility was abolished. In this period of anesthesia, even late in the period, the state of relaxation sometimes was insufficient to allow the surgeon to operate as gently and safely as his personal standards demanded. Then, in the attempt to gain satisfactory relaxation by deeper anesthesia, occasionally a patient was lost.

That type of tragedy led to the second of the three periods. Really it was a subdivision of the first and third periods, and it may be thought of as the era when relaxants were used. The purpose generally was to bring about satisfactory relaxation of the patient who was unconscious from the effect of general anesthetic agents. This was the main purpose of balanced anesthesia.

To be sure, over the years during which I used balanced anesthesia, sometimes I produced analgesia. Almost always, however, there was something undesirable about the result. If the main agent was nitrous oxide, the patient was likely to become cyanotic or to move. If the preponderant agent was something else, administration of a relatively small dose of it would be accompanied by some unsatisfactory phenomenon which could be banished by increasing the dose. Then the patient became quiet and satisfactorily oxygenated but—he was under anesthesia.

The third period, that of analgesia, really was entered ages ago. Anesthesiologists, therefore, have long been in a position to investigate the analgesic effects of small doses of anesthetic agents combined with narcotics or other agents.

ANALGESIA AND ANESTHESIA—LUNDY

TABLE I. EXPERIENCE WITH MRD-125; JULY 30, 1953 TO MAY 31, 1954,
INCLUSIVE: 112 PATIENTS (27 MALES; 85 FEMALES)

Category		MRD-125										Totals	
		Alone	With premedication						And curare. No nitrous oxide or tube	Without premedication. But with nitrous oxide and oxygen			
			And nitrous oxide and oxygen				And curare						
				And tube	And anectine† and tube								
Age, years	10 to 20 21 to 40 41 to 60 61 and more	2 2 1	5 13*† 4 1	15 29 8 3	3 2 7 1	1* 6	1	2	1 1	3	25 59 22 6	112	
Type or region of operation	Dental Eye Dilatation and curettage Radium to uterus Anal papilla Bilateral chem. splanchnic block Caldwell operation	4 1 1	21* 1 1†	53 1 1	11 2	7*	1	2	1	3	103 4 1 1 1 1 1	112	

*In 1 case, pentothal given after supply of MRD-125 exhausted.

†In 1 case, premedication followed by topical and regional anesthesia, supplemented by MRD-125.

‡Anectine is succinylcholine chloride.

An Enlightening Experience

ON July 30, 1953, I injected MRD-125* into a vein of a volunteer subject. The substance is 5-ethyl-6-phenyl-meta-thiazane-2,4-dione. In order to determine what effect the drug was having, I caused the conscious subject's arm to be pricked with a pin but he did not move. That effect I had not elicited so soon with any other general anesthetic agent. I thought, if this drug will anesthetize the skin like that, it ought to be effective in the distribution of the trigeminal nerve, which innervates both skin and teeth.

Consequently, I administered MRD-125 intravenously to two patients who were to undergo extraction of teeth.²⁻⁶ When they were fully analgesic, they still would swallow and open and close their eyes on command. This was too much for one physician-spectator even though he had considerable knowledge of the potentialities of the drug. "I must leave the room," he said. "I cannot stay and witness this torture."

But there was no torture, no pain. The drug had more analgesic qualities, in smaller dose, than any I was used to. Recovery, furthermore, was particularly prompt.

My associates and I now have impressions gained in 112 cases (Table I) in which MRD-125 has given evidence of its analgesic effect, especially when preliminary medication was given.

*The Wm. S. Merrell Company, Cincinnati, Ohio. After this paper was read, the manufacturer gave the preparation the name "Dolitrone."

In 103 of them, the operation was dental extraction. Results were substantially those obtained in the two cases at which the spectator unnecessarily took fright. One of these 103 cases was particularly interesting. The patient was the subject of a demonstration, on April 15, 1954, before a group of physicians who were taking refresher courses at the University of Kansas Medical Center. She was seventy-three years of age and had a fractured hip. She needed some teeth extracted while in the hospital and, for this purpose, she was moved from her room to the operating room. Movement caused pain to her and she complained of it even after the usual preliminary medication had been given. The pain ceased, however, after she received a dose of MRD-125 that was too small to allow dental extraction or to cause her to stop talking.

Nine cases of the 112 were not in the dental category. I shall not comment on all of the nine. However, in one of them an operation was performed on the ocular muscles. Results were not better than those obtained in such cases with pentothal and curare. In another case, dilatation and curettage were performed.

MRD-125, besides being an analgesic drug, is an anesthetic drug, and more must be said of its use as such. When MRD-125 is used for general anesthesia, certain desirable and certain undesirable effects are obtained.

Favorable effects are several. There seems to be little depression of respiration. Blood pressure, pulse rate and the electrocardiogram re-

main substantially unaffected. The electro-encephalogram, which as long as MRD-125 is used for analgesia resembles that obtained when pentothal is used, changes, when the MRD-125 has caused general anesthesia, to one somewhat like that caused by cyclopropane. Bleeding seems to be lessened. Dr. Louie T. Austin has noticed this in oral surgery. Dr. T. H. Seldon⁷ has some experimental evidence on it. With the aid of a Clark window, he observed the capillaries in the rabbit's ear. His opinion is that when MRD-125 was administered, the capillaries, as when nitrous oxide and oxygen are used, were smaller than when such drugs as ether, cyclopropane, ethylene or pentothal were given. In a few cases in which MRD-125 has been used, the skin temperature of the great toes, and of the right calf, has been determined with thermistors; the general rise in temperature was slight unless premedication had been given. Let me emphasize that the previous sentence began with the words "in a few cases." What may turn up later, I don't know.

Other pertinent, but as yet limited, data were obtained in a series of cases in which Dr. T. M. Terpinas⁸ and I were producing anesthesia for dental extraction. After Dr. Terpinas had observed 100 patients, and his apparatus was still standing, I asked that he observe twenty-five more patients but that he substitute MRD-125 for pentothal. This he did and compared the last twenty-five of his 100 patients who had received pentothal with the twenty-five who had received MRD-125. He was able to show that the arterial oxygen saturation when MRD-125 was used always was equal to, or was much more than, that when pentothal was used. This may be because respiration is depressed more by pentothal than by MRD-125. However, both groups of patients received adequate oxygen. The twenty-five patients who received MRD-125 under the observation of Dr. Terpinas are included in the 112 cases of the table.

Still further favorable effects have been that relaxation has been much better with MRD-125 than with nitrous oxide alone; this is true either of analgesic or anesthetic doses. Also, with the patient anesthetized, introduction through the

nose or mouth of an endotracheal tube into the larynx and trachea has been relatively easy. Laryngeal spasm usually has been absent.

Unfavorable effects of MRD-125, when used as an anesthetic agent, sometimes are seen. Thrombophlebitis occurs but in almost negligible frequency. Brief nausea has followed operation in some cases.

As yet, to put MRD-125 into solution, the solvent must be more alkaline than it should be. The alkalinity is by no means of unheard of degree, for the pH of a 2.5 per cent solution of MRD-125 is 11.4 whereas that of a 2.5 per cent solution of pentothal is 10.4. Progress, however, is being made to decrease alkalinity of the solution.

The question will be asked whether tolerance or sensitivity can be expected to develop when MRD-125 is used. I have given it twice to only one patient. No signs of either tolerance or sensitivity were evident.

Of course, I don't know all there is to know about MRD-125. I have an experience of only 112 cases, plus the experience which has accumulated since this preliminary report was put together. Thus far, more than any other product, it has seemed, when combined with other agents, to bestow a humbly hoped for, not necessarily a final, blessing on thirty years of effort to produce safe, smooth analgesia by the balanced use of various agents.

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Foibles and Pitfalls in Obstetric Hemorrhage

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DESPITE the progressive reduction in maternal mortality, far too many women still die unnecessarily. Obstetric hemorrhage, the major cause of deaths associated with pregnancy and childbirth, is particularly hazardous and lethal. Over the country, it is responsible for more than a third of all maternal deaths. It contributes importantly to many others. The yearly constancy in the deaths due to obstetric hemorrhage is extremely distressing, since both knowledge and facilities now are available to avert a large percentage of these fatalities.

For dramatic effect, newspapers often exaggerate in their headlines and captions. In the public press, hemorrhage might be headlined with words like *suicide*, *homicide*, *manslaughter*. For us, however, these terms are false and misleading. Some women might be said to have unwittingly committed suicide through failure to obtain medical care or by disregarding the counsel of their physicians. Such malevolence does not exist professionally. Likewise, homicide and manslaughter—nasty and disagreeable words—are alien to medical practice.

Like Bunyan's Pilgrim, we suffer as physicians on our chosen journey through life. We walk through the Valley of the Shadow of Death. We are beset by professional foibles and pitfalls; they waylay even the most conscientious and experienced practitioners. As we have gained understanding and competence, we have decreased our experience with catastrophe. Present maternal mortality rates are so low and serious complications so infrequent that no physician is able to learn adequately from his own cases or from the experience of his hospital.

Critical reviews of maternal deaths have become essential in determining what are the current problems in obstetric practice. Their evaluation is necessary to discover our professional

shortcomings. Those maternal deaths which have occurred in Detroit since 1948 and in Michigan since 1950 reveal some of the foibles and pitfalls in obstetric hemorrhage (Table I).

TABLE I. MATERNAL MORTALITY

TOTAL MATERNAL DEATHS.....	447	
Probably Preventable.....	312	(69.7%)
Maternal Deaths Due to Hemorrhage..	187	(41.9%)
Factors for Preventability.....	168	(89.8%)
Patient	18	(9.8%)
Physician	150	(80.0%)
(Detroit 1948, 1949, 1953; Michigan 1950, 1951, 1952)		

These deaths involved 447 women. Studied dispassionately, not in an effort to find items for censure, but sincerely to discover whether they might have been avoided had the best possible medical facilities and skills been available at the time, 312 women (almost 70 per cent) may be considered to have died unnecessarily. Of the total deaths, 187 (slightly more than 40 per cent) were due directly to hemorrhage. All of these have been studied personally. In almost 10 per cent, the patient was considered responsible. In 80 per cent, there were factors which pointed to physician responsibility. It is evident that the seriousness of obstetric hemorrhage should never be minimized by those who care for the expectant mother.

The factors in these fatal cases are listed in Table II. They tell us nothing new. As the problems involved are reflected upon, three foibles become outstanding. These I shall call Diagnosis by Presumption, Management by Procrastination, and Treatment by Confusion.

Diagnosis by Presumption

Here professional myopia is unmistakable. The physician with restricted vision relies upon probability. He gambles with uncertainty. Uncritically, he honors the traditional reluctance to examine the patient who is bleeding, especially if pregnancy is probable. Such short-

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OBSTETRIC HEMORRHAGE—OTT

TABLE II. FACTORS IN FATAL OBSTETRIC HEMORRHAGE

Ruptured Uterus	42	(22.5%)
Postpartum Uterine Atony.....	41	(22.1%)
Ruptured Ectopic Pregnancy.....	36	(18.2%)
Premature Placental Separation.....	22	(11.8%)
Placenta Previa	17	(9.2%)
Laceration Cervix/Vagina.....	8	(4.4%)
Retained Secundines	6	(3.4%)
Abortion	5	(2.8%)
Other	10	(5.6%)
Placenta Accreta.....	3	
Postoperative	3	
Uterine Inversion	1	
Ruptured Ovarian Vein	1	
Afibrinogenemia	1	
Undetermined	1	

sightedness usually is associated with improper habits of examination. Diagnoses based upon the patient's recital of symptoms, not supported by physical findings, are accepted and the incident minimized. Tranquil optimism of this sort is the lull before the storm.

Ectopic pregnancy is illustrative. Characteristically, the patient has a delayed or abnormal menstrual period. She may have pelvic pain. Too often, she thinks little of these and seeks no medical care. More than a third of the women dying from a ruptured ectopic pregnancy had not been seen by a physician until they were dead or moribund. Patients must be impressed that they should see a physician promptly, if they are two weeks beyond their expected menstrual period. There must be no delay if there also is pelvic pain, with or without spotting. The notion of waiting until pregnancy has advanced to three months before seeing a physician must be corrected vigorously by all of us if we are to treat our patients properly.

A careful history, including the nature of at least the three previous menstrual periods, is important in arousing suspicions of an abnormal pregnancy. But this is not enough. Every patient must be carefully and thoroughly examined, always with the intent of *proving* the presence of an ectopic pregnancy. Proper habits of examination are essential. Casual pelvic examination, especially when done in bed and restricted to the rectal route, generally misses the tender adnexal mass of a tubal pregnancy.

One must always remember that despite what is learned from the history and examination, additional points towards diagnosis may develop. Recently, a presumptive diagnosis of incomplete abortion was made. The patient was sent to the

hospital for a curettage. The usual casual pelvic examination was done, this time under anesthesia, and the uterus curetted. During her reaction from the anesthetic, the patient complained of severe pelvic pain. Hypotension and an elevated pulse rate were found. An alert colleague suspected a ruptured ectopic pregnancy, ordered blood for transfusion, and recalled the physician. By the time he arrived, the diagnosis was obvious. Adequate, prompt blood transfusion and immediate operation averted a fatality.

Bleeding in any pregnant patient may herald a catastrophe. Diagnosis of the cause demands alertness. It demands a meticulous review of preceding events. It demands a cautious, yet thorough, pelvic examination. It demands a constant watch for additional diagnostic clues. Whenever a situation permits the suspicion of an ectopic pregnancy, and pelvic examination, even under anesthesia, is unsatisfactory or equivocal, aspiration of the cul-de-sac should be done. Colpotomy with visualization of the pelvic structures often clarifies obscure cases.

A word regarding treatment of ectopic pregnancy. In a third of the preventable cases, no operation was done. The diagnosis was missed. Pelvic examination either was not done or was inadequate. In a fourth of the professionally preventable cases, the patient was moribund when operated upon. In every instance, the diagnosis was apparent many hours before. Management of ectopic pregnancy is simple. It involves but three steps: early diagnosis, adequate replacement of the blood lost, and operation.

Management by Procrastination

This might be called the "ostrich" approach. Management based upon uncritical presumptions is haphazard and illogical. The physician, whose optimism leads him to elect a program of "wait and see," usually neglects to consider the dire hazards inherent in obstetric abnormalities. Such lack of foresight permits complications to increase to the degree that disaster becomes inevitable. The fallacies in procrastination are many. We hear them often. Out of context, they are recognized easily. "It's only spotting, means nothing, and will stop." "She's a multipara and won't have any trouble." "I don't think hospitalization is necessary now." Delusions like these undermine professional capability and lead to tragedy.

Uterine bleeding in the last trimester never is meaningless. Painless bleeding is an early symptom of placenta previa. The first bleeding rarely is fatal. The alert physician will have sufficient time to manage this complication successfully. Of the seventeen deaths attributed to placenta previa, two or more episodes of bleeding before the fatal hemorrhage occurred were found in more than 75 per cent. Yet delay in diagnosis was almost universal. It is significant that nine of the seventeen women died undelivered. A third of the total received no blood whatsoever. Several of the patients objected to being sent into the hospital. They felt well, the bleeding was scant, they wished to stay at home. Their physicians overlooked the potential seriousness of the situation and did not insist that they go. In every case, the patient was a multipara.

Placenta previa requires active management. If the bleeding first appears before thirty-seven weeks, expectant management (directed procrastination, if you like) in the interests of fetal survival occasionally may be elected. Nevertheless, hospitalization is important for the proper planning of adequate treatment. On admission, complete blood study and cross-matching of whole blood must be done immediately. There should be no rectal examination. Such often provokes severe bleeding; it never gives satisfactory information.

Generally, the initial bleeding subsides with bed rest and mild sedation. At this point, choice of management should be made. Roentgen study by soft tissue technique for placental site is exceptionally useful. With experience, diagnostic accuracy is about 95 per cent. It also demonstrates the frequently associated malpresentation. Of the cases of placenta previa occurring in our hospital, breech or transverse lie was the position in about one-fifth and an abnormally displaced vertex in almost 15 per cent. Roentgen study, in my opinion, is essential if there is to be any thought of delaying intervention.

As soon as blood becomes available, demonstrated blood loss must be replaced. Expectant treatment cannot be a primary choice, if labor is present, if the fetus is close to term, or if the bleeding continues in any significant degree. Vaginal examination under these circumstances becomes mandatory. It is the only reliable means of accurate clinical diagnosis. This requires the

so-called "double set-up," a prepared operating room with all necessary assistants at hand, the instruments laid out and properly cross-matched blood in the room. After intravenous fluids are started and the bladder emptied, a planned, gentle vaginal examination is done. Such will determine the necessity and method of delivery. A decision made after adequate preparation and in an orderly manner as has been described allows the physician, not the emergency, to direct therapy.

Treatment by Confusion

This represents professional hysteria. Based upon expediency, it is always thoughtless, often selfish. The procedures resorted to are inappropriate and badly timed. Complications become compounded until chaos threatens. Desperation then replaces judgment and training.

Rupture of the uterus was the largest single cause of death from hemorrhage. In some 20 per cent of these, oxytocics were used either to induce labor or to overcome dystocia. While induction of labor for convenience may have a defense, I believe that responsibility for any subsequent difficulty rests squarely upon the physician. Oxytocics should never be used until the obstetrical problem is crystal-clear and no contraindications are *proven* to exist. There were forty-two deaths due to uterine rupture. In a third, version and extraction was used for delivery. In half of these, the cervix had to be incised or dilated manually before it could be carried out. In every instance, version and extraction appeared unnecessary. The situations which provoked its use either could have been avoided or answered by less hazardous means, had they been fully evaluated when the patient entered the hospital. It is significant that only eight of the women in this group were delivered spontaneously or by truly *low* forceps. The multiparous uterus has a notorious liability to rupture. Only 15 per cent of the uterine ruptures involved primigravidae. In all of them, dystocia was long in evidence. Rupture followed version and extraction or unsuccessful attempts at forceps delivery. In all of the deaths where rupture was associated with a major obstetrical procedure, preparation for the undertaking was inadequate. Half of the women were given no blood at all or were given small amounts too late to be of help.

These illustrations of the foibles of presumption, procrastination, and confusion admittedly are unpleasant. In a way, they are but preliminary sketches. With added detail, they reveal the grimness of the pitfalls which surround obstetric hemorrhage. There are three major pitfalls—the acceptance that most hemorrhage is unavoidable, the assumption that there is no hemorrhage unless there is shock, and the belief that time is a healer.

Hemorrhage Avoidable

It is unfortunate that certain of the complications involving bleeding during pregnancy have been called "unavoidable." This promotes professional resignation. It must be remembered that *manageable bleeding* always precedes hemorrhage. Some of the complications, such as ectopic pregnancy, placenta previa, and premature placental separation, are the result of pathologic conditions which we cannot alter. Nevertheless, all can be managed with success.

Resignation in the face of hemorrhage is disastrous. It results from failure to diagnose the cause of bleeding early, from delay in appropriate treatment, and from inadequate support of the patient during the bleeding episode. We must have a proper attitude towards hemorrhage. We must regard bleeding as a warning sign of potentially grave trouble. It often leads to hemorrhage. Hemorrhage rapidly may become extremely difficult to combat. Any bleeding during pregnancy must be respected.

Shock Following Massive Blood Loss

In hemorrhage, it has been demonstrated repeatedly that if the systolic blood pressure falls below 100, a loss of at least 30 per cent of the blood volume must have taken place. This means that in moderate shock, with a systolic pressure of 80, there has been blood loss in the neighborhood of 1,500 cc. If we are to diagnose hemorrhage so as to circumvent fatalities, we must be more accurate in our determinations of blood loss. Usually, we are only half right. I suspect that our observations often are biased and inaccurate, because there lurks in us the feeling that we personally are responsible for hemorrhage. Certainly, we tend to minimize undesirable events. This is especially so when personal experience with fatal complications is small.

Because there is reliable treatment for obstetric hemorrhage, it must be considered first whenever shock is encountered. Beware of concealed hemorrhage. If no bleeding is evident externally, think about premature placental separation, ruptured uterus, and ruptured tube. Until blood loss as the cause for shock can be demonstrated *not to coexist*, never think of explaining it as due to drug reaction or trauma. Remember, too, that blood transfusion, specific treatment for hemorrhage, is beneficial in many other causes of shock. While working out the diagnosis, at least order cross-matching of blood.

Reliance solely upon fluids and vasopressors is foolhardy. Evidence is accumulating that excessive vasoconstriction may not only produce shock but may seriously delay renal recovery as well as perpetuate circulatory inadequacy. Moreover, vasopressors may hide the persistence of a significant blood deficit. Fluids and vasopressors should be used only as emergency means of support for the patient in shock until specific therapy can be provided.

The Physician, Not Time, the Healer

When resignation creeps into the management of obstetric emergencies, professional rout is certain. The malevolence of disaster quickly can pervert our judgment and produce a strong feeling of personal inadequacy. We react too often with false heroics. We mumble about "irreversible shock" and resort without conviction to uterine packs, hysterectomy, and a frantic procession of drugs. Some of these have occasional merit. But their use must be preceded by complete understanding of what is being combatted and what momentary advantage is expected. "Irreversible shock" really means therapeutic failure. The term has no place in clinical practice, because it is an open invitation to neglect in treatment.

In the face of apparently overwhelming reverses, we must maintain a high degree of professional courage. The adversity of our trials can be overcome by faith in ourselves and the proper use of our available resources. If we have battled catastrophe and seem to have won, we still must remain on guard and defensive. Other phases of the battle may try our resiliency and reserves. Bleeding may increase or recur. The blood may not seem to clot. Hypo-

tension may persist, despite vasopressors. Oliguria or anuria may develop.

Now, in a positive way, I should like to summarize how the foibles and pitfalls in obstetric hemorrhage may be avoided. There are two aspects, prophylactic and active management.

Prophylaxis

There are four injunctions in prophylaxis.

1. *Be alert.*—At the first visit, inquire specifically into bleeding associated with previous pregnancies, with tooth extractions or other surgery, and any which occurred without reasonable cause. Obtain a complete blood count and determine blood type, Rh factor as well as serology. Remember, the emergency may occur before the next visit. Give supplemental iron in adequate amounts throughout pregnancy. If there is a significant anemia, treat it appropriately.

2. *Be suspicious.*—Evaluate any abnormal menstruation or other bleeding and pain. An ectopic pregnancy may rupture any time. With abnormal fetal position, placenta previa may be present. When hypertension is present and bleeding and uterine pain develop in the third trimester, premature placental separation is likely. The multipara is dangerous. Uterine rupture is a constant threat to her, particularly if there has been uterine surgery, overdistention from gestational products, or trauma from obstetric intervention.

3. *Anticipate.*—With a suggestive history or other cause for suspicion, be prepared to combat hemorrhage. Anticipate it in patients with prolonged labor. About 15 per cent of all inertia labors have postpartum hemorrhage. Retained placenta is far more common here. In prolonged labor, version and extraction should be outlawed as a method of delivery.

4. *Be prepared.*—If bleeding is suspected to occur, or if it has occurred, however small in amount, prior to or during labor, be certain that the patient has an adequate blood volume before delivery. Have at least 1,000 cc. of compatible blood in the delivery room. Maintain access to the circulation by a free flowing of fluid through a large gauge needle.

Active Management

There are five cardinal principles of active management.

1. *Replace all blood loss of 500 cc.*—Double the estimated loss. If, then, this is 500 cc. or more, replace it volume for volume. Never include in the calculation of replacement the fluids or plasma expanders which have been given.

2. *Support the patient.*—Volume-for-volume replacement of blood loss is essential. In emergency, plasma expanders such as P V P, Dextran, or 6 per cent gelatin may be used. Human plasma is least desirable. Maintain pulmonary ventilation, by bag respiration if necessary. Supply oxygen in high concentration. Support the circulation, using vasopressors to hold the systolic pressure at 80, until the source of bleeding can be controlled and blood volume adequately restored.

3. *Observe carefully after delivery.*—Find the cause of pre-partum or intra-partum bleeding and treat appropriately. Carefully explore the uterus and examine the cervix and vagina for lacerations following any difficult low forceps, all midforceps, breech, or version and extraction deliveries. Give an oxytocic at least after delivery of the examined placenta. Be constantly certain of the state and size of the uterus. If excessive bleeding occurs, establish the cause, remembering that uterine atony is diagnosed only by negative findings. For atony, add Pitocin (1.0 cc. per 1,000 cc.) to the intravenous fluids being given. If defibrination is suspected, observe blood samples for clotting and dissolution while replacing blood loss by whole blood transfusion. When indicated, give fibrinogen in two gram amounts to a total necessary to restore coagulation.

4. *Reappraise constantly.*—Every patient given intravenous fluids, intravenous oxytocic drip, or blood transfusion at delivery should be watched by a competent observer during such treatment, and for at least an hour after its completion. Subsequently, the patient should have regular and frequent checks of pulse, blood pressure, lochia, and urinary output for at least twenty-four or thirty-six hours.

5. *Be certain the bleeding is controlled.*—In the treatment of obstetric hemorrhage, the uterine pack appears as lethal as version and extraction. While it may be defended, critical reevaluation shows that it has only temporary value in dire emergencies. As generally employed, it hinders hemostasis. The usual uterine

pack can absorb 1,000 cc. of blood before additional loss can be seen at the vulva. It falsely engenders a sense of security. By delaying proper treatment it permits deterioration into severe shock which too often is found too late. There should be no hesitancy in doing a laparotomy in the face of obstetric hemorrhage when thorough appraisal of the situation indicates that such is necessary to control the source of hemorrhage. Remember, operation is done to staunch the bleeding. In this group of cases, in three instances operation was done but the bleeding was not stopped. In the extremely critical patient ligation of the uterine arteries may be preferable to hysterectomy. Hysterectomy should not be done if there is defibrination.

Shortly after I had completed what I thought would be the final draft of this paper, there appeared a report of the Maternal Welfare Committee of the Massachusetts Medical Society based upon its current study of maternal deaths. Two sentences of this report stated the conclusion I wished to make with such

brevity and clarity that I discarded mine to quote from it.

"Careful analysis of past deaths reveals that simple adherence to well established and freely accepted principles as taught in every medical school, combined with a certain minimum of equipment and facilities would have avoided the majority of them. Today, 'minimum facilities' must include immediately available blood for transfusion."[†]

All of us, I know, are dedicated to the principle that no mother should die a "preventable death." If we can realize our dedication, there will be no personal overtones in these lines from Thomas Hood,

"One more Unfortunate,
Weary of breath,
Rashly importunate
Gone to her death!
Take her up tenderly,
Lift her with care;
Fashioned so slenderly,
Young and so fair!"

—
[†]New England J. Med., 252:739, 1955.
3019 North Woodward Avenue

CEREBRAL PALSY: RECENT RESEARCH

Previous abortions and miscarriages may potentiate cerebral palsy in subsequent children, according to studies conducted by Drs. Eric Denhoff and Raymond H. Holden of the Meeting Street School for Cerebral Palsy in Providence, Rhode Island. Observations on the histories of 100 cerebral palsied children compared to those of 504 consecutive ward births led the authors to state that "it must be assumed that the mothers of these (cerebral palsied) children have some constitutional factor or endocrine dysfunction which contributes to the aberrant development of their offspring."

It has generally been held that trauma before or during birth contributes to brain damage which then results in mental and physical defects. In this study, however, "although all the cases of the 'suspicious' group suffered some trauma at birth . . . nevertheless, those whose mothers had not previously aborted seemed to develop

normally. On the other hand, the infants who were subjected to birth trauma and who were born of mothers with a history of previous abortions or miscarriages were later found to be more developmentally handicapped."

Because of these observations, the investigators suggest that a "maternal 'constitutional' factor (heredity, poor nutrition, physiologic dysfunction) may in some way lower the threshold of resistance . . . in the newborn so that he is more susceptible to brain damage than an infant born to a mother without this handicap. . . . In other words, this study seems to show conclusively that birth trauma *alone* is not necessarily responsible for later evidence of brain damage."—E. DENHOFF and R. H. HOLDEN: Etiology of cerebral palsy: an experimental approach, *American Journal of Obstetrics and Gynecology*, 70:274 (Aug.) 1955.

The Heritage of Ethics in Medicine

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WE LIVE in an age when, in many quarters, almost everything that is human seems to be regarded as something reprehensible. Man, by his mastery of forces that are not human, has managed to survive the most devastating war in all history, and he can even claim spectacular victories over his environment. He has made new conquests of the elements, and by subjugating these to his will, he has learned to kill with amazing facility.

Yet, many wise observers are afraid that in surrendering his security and his welfare to the machine and to new engines of destruction, man has lost his freedom of mind and soul, and has become the unhappy prisoner of fear and suspicion. He has become the victim of his knowledge today, even as he was once the slave of his ignorance. Having made the choice to place his reliance upon mighty forces which cannot think, feel or see, man is now tortured by his inability to live side by side with other men in an atmosphere of peace and mutual confidence and respect. If, as some have said dolefully, he has reached a point from which he dares not turn back but knows not how to go forward, it is not because he has learned too much about his environment, but because he has learned too little about himself. That vast array of accumulated knowledge about forces which can be harnessed to serve man has not been matched by mastery of man himself or by felicity in his relations with other men.

It is a curious thing that modern man, in his frantic search for more and more means of dependence on new instruments for security and perhaps even preservation, has not been wise enough to go back to his predecessors to see if by some chance they had managed to learn something in a bygone age which would be of value to him in the present. Even in the Middle Ages, enlightened men were willing to do that much. They went back to the glories of Greece long

since dead, and when they applied what they found, they were able to create an age that is still an unparalleled wonder of human endeavor: the Renaissance. It was a rebirth of art, letters, concepts of freedom and the government of men, and of systems of ethics.

We do not hear too much about ethical systems today. Perhaps we are afraid to give much thought to ethical problems when we know that the head of a government who signs a solemn covenant of peace and international good faith may, in the next stroke of his pen, unloose the deadliest weapons of death and misery thus far devised by the ingenuity of man.

Yet there are systems of ethics, however feebly they may seem currently to be embraced and defended. And among the oldest of such systems—far older than the Renaissance of the Middle Ages—is the system of ethics of the physician. This particular system has had no Renaissance because it has needed none—it was evolved in a timeless age of antiquity greater than that of Greece itself, and it has endured to our own day with practical modifications which have served the needs of changing environments, but which have not perverted the ancient integrity of its objectives.

In the United States, in particular, members of the medical profession have been more than conscientious in shouldering the responsibilities implied in such a system of ethics. Our progress in public health, our improvements in medicine and the teaching of medicine, our concern that the best possible medical care shall reach all the people—these are tangible accomplishments which most reasonable Americans are able to perceive and evaluate for themselves.

In other respects, the usual American citizen's concept of the contribution of the medical profession to the great social questions of the day may not be so happy. He may have been told by politicians, for instance, that the American Medical Association only last year opposed a proposal

*Dr. Buie is a member of the Judicial Council of the American Medical Association.

for Federal re-insurance in the field of medical care, and he may have been assured that the American Medical Association also went on record against two provisions of the Social Security Act. Someone is almost certain to have told him that the American Medical Association differed with the Federal Government on official policy in the medical care of veterans with disabilities not related to their service in the armed forces.

Politicians of necessity have loud voices, and they know how to get into newspapers. Most physicians are quiet fellows, and if they are jealous of their good name, they try to keep out of the public press. So it is not surprising that the American public may not realize that the American Medical Association actually gave active support to no fewer than eleven of fifteen major medical bills enacted into law by the Eighty-third Congress. Of these fifteen major medical bills, the American Medical Association opposed only two. On two more it took no stand.

Four bills of major importance to every American were passed by the Eighty-third Congress, and the American Medical Association supported every one of them. These are the Hill-Burton Act, to stimulate and support the construction of hospitals, establishment of the U. S. Department of Health and Welfare, approval of a charter for the National Fund for Medical Education and extension of the so-called doctor draft law to provide adequate medical care in our armed forces. When you read in the public prints some highly colored attack upon the medical profession or the organization which represents it, remember also that the American Medical Association chose to take the part of the American people where it really counts—in the legislative halls where our laws are made, and not in sensational newspaper headlines or in flamboyant magazine articles by hucksters who have something to sell and are not always on speaking terms with the truth.

Are there, then, abuses in American medicine? There undoubtedly are, as there must have been even in Heaven, since we are told that because of his sins the Archangel Lucifer was cast headlong from that most perfect of all realms. You will note, however, that Lucifer was punished and driven out into iniquity by his celestial peers, without external assistance. Now, members of the medical profession do not claim to be angels, and they do not even—as a rule—resort to supernatural powers, but they do have effective means

for stamping out abuses in their midst and punishing offenders, and they have had these means and used them quietly and efficiently over the centuries, long before anyone ever heard of a muck-raking magazine or a crusading newspaperman. Let us not forget that the army with the loudest trumpets does not always serve a just cause.

Virtually every one of the sensational popular accounts of medical abuses which go unpunished is false, without any foundation in fact. The abuses themselves would never be tolerated by the medical profession, which would be the first to take action against the offender, long before any question of law or even propriety arose. Since the ancient precepts of ethical conduct apply equally to physicians in the mass as well as the individual practitioner, the willful violator of these principles soon finds himself, in effect, banished to a solitary island where he has neither hope nor company, and where the deathly silence is broken only by the tolling of a bell which he knows only too well tolls for him alone. The medical profession many centuries ago learned how to correct any incipient infractions of its code, and it has Devil's Islands of its own which are always ominously visible on the horizon to the physician who might be tempted to swerve from the honorable course.

For more than 100 years the American Medical Association, as physicians far back into antiquity have always done, has utilized its *Principles of Medical Ethics* to serve in a manner prescribed by the preamble to those published principles:

"These principles are intended to serve the physician as a guide to ethical conduct as he strives to accomplish his prime purpose of serving the common good and improving the health of mankind. They provide a sound basis for solution of many of the problems which arise in his relationship with patients, with other physicians, and with the public. They are not immutable laws to govern the physician. The ethical practitioner needs no such laws; rather they are standards by which he may determine the propriety of his own conduct. Undoubtedly interpretation of these principles by an appropriate authority will be required at times. As a rule, however, the physician who is capable, honest, decent, courteous, vigilant, and an observer of the Golden Rule, and who conducts his affairs in the light of his own conscientious interpretation of these principles, will find no difficulty in the discharge of his professional obligations."

That exemplifies current thinking on ethical problems in medicine. But we can go back much further than that. The pattern for all subsequent development of medical ethics was established by the oath of Hippocrates. This oath, named for the father of Greek medicine, is a marvel of compact expression. In some 300 words it outlines many of the basic principles on which have been built most ethical codes during the past 2,200 years. Hippocrates lived in the fourth century before Christ, but the pattern of principles which bears his name remains the prime feature of all systems of medical ethics. From the standpoint of integrity, no one has ever improved on these principles. From the standpoint of practical application, work never ceases on the problem of adjusting these principles to the requirements of the contemporary scene.

Every medical student learns, first of all, to abide by the Hippocratic oath, and the influence of this oath on the ethical beliefs of physicians of today is shown in the first section of the first chapter of the *Principles of Medical Ethics* of the American Medical Association. Here attention is called to the fact that a physician should be "an upright man, instructed in the art of healing." Furthermore, it is laid down that "he should also be modest, sober, patient, prompt to do his whole duty without anxiety; pious without going so far as superstition, conducting himself with propriety in his profession and in all the actions of his life."

The National Medical Convention, which was a forerunner of the American Medical Association, at its first meeting in New York, held in 1846, appointed a committee to prepare a code of ethics. The proposed code was offered at a meeting which was held in Philadelphia in 1847.

The present *Principles of Medical Ethics* have evolved, with revisions, additions and changes of wording from this early code. At the present time and since June of 1953, the *Principles* have been undergoing another complete revision. There will be future revisions, because physicians are as alert as anyone else to the changing needs of their time, but the fundamental integrity of the individual has not been revised, and I hope it never will be.

Through the *Principles of Medical Ethics*, the American Medical Association endeavors to engender and assure proper behavior on the part

of its members. A casual review of these principles by an impartial observer cannot do otherwise than convince him that no one is guided by a higher ethical code than that of the physician.

Some portions of the principles are devoted to the duties of physicians in their relationships with their patients. Others deal with the duties of physicians in regard to other members of the medical profession, and still others pertain to the duties of physicians in their relationship with the public. An attempt is made to establish principles of a broad general nature, instead of providing clear-cut laws. It is a mistake to regard these principles as either inflexible laws or confining rules.

"The prime object of the medical profession is to render service to humanity; reward or financial gain is a subordinate consideration." Good medical service cannot be expected unless society appreciates the value of such service sufficiently to reward properly those who can and will give good service. But it is equally true and even inevitable that the medical profession will lose its right to survival and will perish if it places financial reward above humanitarian considerations. Whenever the medical profession, as has been the case in some countries under compulsory sickness insurance (better known as "socialized medicine"), has been forced to make financial reward a primary consideration, the quality of medical service and with it the health of those served has suffered a decline. Any attempt to make the conquest of disease subordinate to the income of the physician, or to produce and distribute such services according to competitive standards, backed by methods of salesmanship, violates the fundamental principles of medical ethics and is degenerating to the individual as a physician.

The *Principles of Medical Ethics* are clear enough. But to ensure that they will be interpreted correctly and applied equitably, an appropriate deliberative body is necessary. The value of this arrangement is attested by courts of law, which perform a similar function in forensic matters, and by clergymen, who interpret theological principles for their congregations. The judicial body of the American Medical Association is the Judicial Council, and its duties are similar to those of the United States Supreme Court.

Let us examine some of the provisions of the *Principles*.

Advertising

"Solicitation of patients, directly or indirectly, by a physician, by groups of physicians or by institutions or organizations is unethical. This principle protects the public from the advertiser and salesman of medical care by establishing an easily discernible and generally recognized distinction between him and the ethical physician. Among unethical practices are included the not always obvious devices of furnishing or inspiring newspaper or magazine comments concerning cases in which the physician or group or institution has been, or is, concerned. Self-laudations defy the traditions and lower the moral standard of the medical profession; they are an infraction of good taste and are disapproved."

We know that this principle is sound because we know that the advertising of medical service has never failed to break down standards and to lower the quality of that service, anywhere, in any age. Advertising and solicitation are so inseparably a part of modern economic life, however, that it requires continuous vigilance to guard against their intrusion into the field of medicine. Physicians generally recognize that in an age of scientific wonders there is a constantly increasing body of news and information concerning disease which is helpful to public health and medical progress. Yet it is also true that exploitation of such news for profit may harm the public. Everyone knows how sensational publicity of "cures" for cancer, tuberculosis and other diseases has resulted in unnecessary suffering and false hopes of relief. This, to any reasonable man, is cruel and reprehensible. Sometimes, publications by physicians in medical journals actually are only preliminary announcements of incomplete scientific investigations, and they are frankly stated to be such by their authors. They are intended only to inform the profession of the nature of work in progress, and they do not present final results or conclusions. Often, publications which have appeared elsewhere than in medical journals have been flagrant fakes.

Radio and television broadcasting has brought new advertising problems. Quacks, patent medicines and all kinds of "cures" thrust their advertising into millions of homes. There is no way to measure the injury to the public health that has resulted from selling such "medical" services without appropriate evaluation and

supervision. The American Medical Association attempts to combat this situation by educational medical publicity designed to assist the public in caring for its health and to provide information concerning appropriate methods of obtaining medical service. It has always done this, but without fanfare or crashing cymbals. No physician has ever held back from the public a remedy that has been tested adequately by reputable scientists and found to be efficacious against disease.

Payment for Professional Service

"The ethical physician, engaged in the practice of medicine, limits the sources of his income received from professional activities to services rendered the patient. Remuneration received for such services should be in the form and amount specifically announced to the patient at the time the service is rendered or in the form of a subsequent statement.

"Unethical methods of inducement to refer patients are devices employed in a system of patronage and reward. They are practiced only by unethical physicians and often utilize deception and coercion. They may consist of the division of a fee collected by one physician ostensibly for services rendered by him and divided with the referring physician or physicians or of receiving the entire fee in alternate cases.

"When patients are referred by one physician to another, it is unethical for either physician to offer or to receive any inducement other than the quality of professional services. Included among unethical inducements are split fees, rebates, kickbacks, discounts, loans, favors, gifts, and emoluments with or without the knowledge of the patient. Fee splitting violates the patient's trust that his physician will not exploit his dependence upon him and invites physicians to place the desire for profit above the opportunity to render appropriate medical service.

"Billing procedures which tend to induce physicians to split fees are unethical. Combined billing by physicians may jeopardize the doctor-patient relationship by limiting the opportunity for understanding of the financial arrangement between the patient and each physician. It may provide opportunity for excessive fees and may interfere with free choice of consultants, which is contrary to the highest standards of medical care."

The ethical antagonism to "fee splitting" which is forbidden in this section is based on the fundamental principle that whatever weakens the confidential relationship between patient and physician is likely to make diagnosis more difficult, treatment less effective and recovery less prompt. No patient would choose to be the unwitting victim of secret negotiations when his health or even his life is in the balance. Frank and open

relationships with the patient are destroyed when the specialist secretly rebates a portion of his fee to the referring physician. The American Medical Association has always maintained steadfast opposition to such practices.

Limits of Gratuitous Service

"Poverty of a patient, and the obligation of physicians to attend one another and the dependent members of the families of one another, should command the gratuitous services of a physician."

The professional obligation of physicians to give gratuitous services when the poverty of the patient allows no other course is in direct contrast with the principles of modern commodity economics. Food, clothing and shelter vie with medical care in almost equal importance to health, yet no obligation is assumed by the producers and purveyors of these commodities to recognize poverty in fixing prices or as a reason for gratuitous service. Nevertheless, the age-old acceptance by the medical profession of this duty of gratuitous service to the poor has been of great economic importance. The physician never receives any remuneration for a considerable part of his services to the sick. Very few of his fellow-citizens, however, take the time to consider this notable contribution on his part.

Moles, Malignancies and Birthmarks

Birthmarks before puberty are rarely cancerous but after this age, any skin lesion which changes its size and characteristics may be malignant, according to Dr. John Charles Long, Jr., director of the surgical services at the Plainview Hospital and Clinic Foundation in Plainview, Texas.

The most common type of birthmark is the pigmented mole or *nevus*, which may be brown, blue, or black. "The brown nevus usually does not undergo cancerous change after puberty. They can be left alone unless they become irritated, or if they appear unsightly. Blue or black nevi may be malignant lesions. For this reason, they are often called 'black cancer' and generally, they do not grow hair. The nevi which grow about the external genitalia or on the feet are considered dangerous. To remove these moles during childhood eliminates the danger of cancer developing."

The Physician's Responsibility

"The avowed objective of the profession of medicine is the common good of mankind. Physicians faithful to the ancient tenets of this profession are ever cognizant of the fact that they are trustees of medical knowledge and skill, and that they must dispense the benefits of their special attainments in medicine to all who need them. Physicians dedicate their lives to the alleviation of suffering, to the enhancement and prolongation of life and to the destinies of humanity. They share whatever they have learned and whatever they may discover with their colleagues in every part of the globe. They recognize instinctively that the need for improvement of medical knowledge and skills is never at an end, and while they strive toward satisfaction of this need they are zealous in making available to physicians of good character who possess the desire and the ability to learn the aggregate of progress in medical education, research and discoveries as they may exist at the time. They do not remain content to limit their activities to the care of the infirm, since they recognize also their useful rank among the vast concourse of citizens upon whose shoulders the destiny of our nation rests. At the same time they will resist attempts to debase their services by diverting them to ignoble purposes. In their relationships with patients, with colleagues, and with the public, they maintain under God, as they have down the ages, the most inflexible standards of personal honor."

This shows clearly the high principles which physicians utilize in the conduct of their professional activities.

Biopsy of suspected birthmarks involves surgical removal of the lesion including a small margin of normal tissue which avoids opening the birthmark during the operative procedure. Microscopic study of the biopsy will indicate whether or not cancer is present.

If cancer is present, surgery is usually indicated as many lesions are resistant to x-ray therapy while others are not cured by "burning-off" or cauterization procedures. Non-cancerous lesions may be treated by many methods such as sandpapering techniques, tattooing with pigment matching adjacent skin areas, carbon dioxide snow, but rarely by x-ray therapy which carries the danger "that a cancer lesion may develop following radiation therapy."—J. C. LONG, JR.: Are birthmarks malignant? *American Journal of Nursing*, 55:955 (Aug.) 1955.

Three Beginnings, Founded in the Faith

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THE three beginnings were evenly spaced across the past 100 years. They were modest beginnings, but they were rich in promise, because these beginnings were "founded in the faith": a faith in future achievement.

The first of these three beginnings was the University of Minnesota. A century ago the University was in its infancy, aged four. The popular term "lusty infant" was decidedly inappropriate. Bane eclipsed blessing in the early years after the enrollment of the first twenty students in the autumn of 1851.

The *St. Anthony Express*, a newspaper oratorically staunch in support of the newcomer, was constrained to be frank. It not only urged those who would "see this infant institution have a rapid and healthy growth. . . (to) rally around it. . ." but it also pronounced dismally that the school, "as yet, has no funds to sustain it."¹

True, there was a building of three stories—including the basement—costing \$2,500. True also, there was income from tuition, graded according to the level of advancement of the courses, and ranging per student, per quarter, from \$4.00 to \$6.00. And finally, with rather more conviction than architecture or finances provided, it was reiterated that the scene of these operations was one of charming natural beauty. The building lay "only a few rods from the Falls. . . the romantic beauty of whose banks surpasses that of the Hudson."²

Whatever promise or consolation was provided by these modest assets, the institution was beset with afflictions, some of which may be enumerated:

The donor of the land upon which the school building stood repented his folly in yielding to

the temptations to support higher education and reclaimed the property into the realm of profitable business real estate.

The professor—and the only one in the institution at the time—resigned, because he found he had no fixed salary, but was expected to survive on students' fees, supplemented with income from lectures to the public. A chancellor of the time complained bitterly of the insufficiency of stamps and stationery available to him.

Much of the land which had been voted by the Congress of the United States to the institution for its support and endowment could not be acquired, because the hostile settlers hoped they themselves might some day possess this government land.

A drought prevented floating to market the timber which had been cut on such lands as the school did secure.

Public subscriptions for the support of the institution suffered dreadful delay and decimation in the payment.

Bonds in the sum of \$40,000 issued against the University's land holdings upon authorization of the state legislature interested but few takers.

A country-wide financial panic (1857) spread ruin and despair, and "Never since Minnesota was discovered has money been so scarce. . ."²

Through such dark clouds of gloom and foreboding, there arose the first building on the present campus, called "Old Main." But then, as now, physical structures alone could not maintain the University. Few were the students who entered Old Main, until the complete collapse of the ill-fated enterprise with the outbreak of the Civil War. Of Old Main, the *St. Paul Pioneer and Democrat* then said: "The whole building is going to ruin. . . all the doors being open and the snow drifted in. . . it melts on warm days through the floors. . . That's the way the money goes."³

This was the beginning which did not die be-

Convocation address, University of Minnesota, Minneapolis, July 14, 1955.

Dr. Johnson is Director of the Mayo Foundation for Medical Education and Research.

THREE BEGINNINGS—JOHNSON

cause it was a beginning founded in the faith, founded in a resolve which was sometimes brash, seeking to "put Harvard in the shade,"⁴ founded in a determination not always characterized by academic restraint, as when it was declared that, "God evidently intended Minnesota as the masterpiece of all his works, the axle on which the Union should turn, the sun of our Federal system, between which and New England there could be no other comparison than between Hyperion and a Satyr."⁵

Although sometimes brash and sometimes unrestrained, this faith in future achievement was strong and enduring. It possessed and inspired John Sargent Pillsbury, "the father of the university," who, more than any other man, was responsible for restoring the defunct institution, after the Civil War, to its long rich life. Commencing as a creditor of the University, to the extent of \$5.50, "for locks, nails, and iron," Pillsbury guided the fortunes of the University in its early adolescence, in his varied capacities as hardware merchant, organizer of volunteer regiments for the Civil War and Indian uprisings, businessman, city councillor, regent of the University, state senator, international financier and governor of Minnesota.

It was Pillsbury's conviction that "There is no factor that can do more for the state and the nation than the University with its wide open doors ever welcoming all to enter."⁶ It was this faith which has since inspired the great men of Minnesota: Folwell, Northrop, Vincent, Burton, Coffman, Ford, Coffey and President Morrill and the many others of today. These had no desire to "put Harvard in the shade," but they have led the University into the bright sun of scholarly pre-eminence.

The second of the three beginnings was in Rochester, Minnesota, a half-century ago. Here there was being evolved a project of medical education and research in a unique setting. As humble, indeed, were these beginnings as were those of the University fifty years earlier. A small but excellent library was begun and a laboratory of experimental medicine was opened. The laboratory occupied a portion of the barn of Dr. Louis B. Wilson, who later became the first director of the Mayo Foundation. The library and the laboratory, symbolic of medical education and research, were at the disposal of a small group of

physicians who were the associates of the Doctors Mayo and temporary students at the intern or assistant level.

The origins of this group may be traced back to the time when the University found itself in a state of suspended animation. It was during the Civil War that Dr. W. W. Mayo took residence in Rochester and it was in that period that the two Mayo brothers were born.

During the summer of the year the elder brother returned home from medical school (1883), a tornado struck the city, an event of unusual importance for medicine and higher education in Rochester. Caring for the tornado casualties was severely hampered for want of a hospital. The Sisters of Saint Francis, who functioned as nurses in makeshift emergency quarters, determined that Rochester needed and should have a hospital.

Nature's role in the development of the University in Minneapolis had been gentle, confined to providing what an early enthusiast called "one of the most beautiful sites in the Union for the establishment of a university."¹ Nature's role in the Rochester beginnings was grim and harsh. Dean Theodore Blegen recounts that his father, a resident of Rochester at the time, referred to the tornado as "one of the most terrible storms in the history of the world."⁷ Ill though this wind was, a great good emerged as St. Mary's Hospital, probably the largest of its kind in the world today. St. Mary's Hospital is staffed by the faculty of the Mayo Foundation, and is a major teaching hospital on the Rochester campus of the University.

By the turn of the century—fifty years ago—the embryonic beginnings of the Mayo Foundation for Medical Education and Research were taking form. The Mayo brothers had already decided upon a plan "to put aside from our earnings any sums in excess of . . . a reasonable return for the work we accomplished. . . . Each member of the staff received a salary which was sufficient to permit wholehearted attention to his work. There was no profit sharing—accumulations over and above the amount necessary for the purposes I have outlined were conservatively invested. . . ."⁸

This was a beginning, an idea of two doctors to save money, but it was a beginning founded in the faith, in the conviction that "The people's money, of which we have been the moral custo-

THREE BEGINNINGS—JOHNSON

dians . . . (should be) returned to the people"⁸ through medical education and research.

Later, Dr. W. J. Mayo was able to say that the fund accumulated "had grown far beyond our expectations." He reiterated the principle that this money "had come from the sick, and . . . ought to return to the sick in the form of advanced medical education, which would develop better trained physicians, and to research to reduce the amount of sickness."⁸

The brothers Mayo were certain that the ends they desired could best be achieved through the University of Minnesota. Instruction of young physicians and provision of facilities for research at Rochester should be part of the University.

Parallel with these Rochester beginnings, men of vision at the University campus charted a new course in graduate medical education. President George Edgar Vincent bemoaned the fact that success in medical practice as a specialist depended almost entirely upon native ability rather than systematic training, since virtually no such systematic training existed anywhere. President Vincent and graduate-school dean Guy Stanton Ford saw in the collaborative enterprise in Minneapolis and Rochester the possibility of "a graduate school which will stand absolutely alone in the sphere of medical education in America today."⁹

President Vincent's dream of systematic training of specialists in medicine, made reality by the efforts of Dean Ford and Mayo Foundation director, Louis B. Wilson, in Minneapolis and Rochester, anticipated a major development in the training and identification of specialists in this country. There now exists a group of experts in each special field of medicine from anesthesiology to urology, who publicly certify to the training and competence of physicians desiring to function as specialists.

Prior to the employment of this concept, any medical-school graduate could declare, for example, "I am a pediatrician." Neither his colleagues nor the public could readily verify or refute his claim. Today the public and the medical world at large can readily verify such a claim, as a consequence of general acceptance of President Vincent's principle that, to be a medical specialist, systematic training must supplement native ability.

Now these beginnings have come to full fruit-

tion; they were the humble beginnings of a laboratory in a barn, a handful of physicians studying and practicing surgery, a resolve that medical earnings are a public trust, a determination to establish high standards of graduate medical education.

The faith in which these beginnings were founded has come to great and good substance in the medical departments of the graduate school of the University of Minnesota. This school, on the Minneapolis and Rochester campuses, is by far the largest of its kind in the world. As to its quality, we may safely assert that it is of a high order.

The third beginning is 1955, a century since the University's beginning, a half-century since the early beginnings of the Mayo Foundation. The third beginning is now—this commencement.

You have inherited knowledge and learning, which will melt away as did the snow through the floors in the ruins of Old Main, unless the course you set follows the pattern of a beginning founded in the faith, a faith in future achievement, in your own future achievement.

Benjamin Franklin was wont to ask the question: "Do you love truth for truth's sake, and will you endeavor impartially to find and receive it for yourself, and communicate it to others?"¹⁰

In the course of your life at the University, you have learned to love truth for truth's sake, as indeed you must also have learned to love beauty for its own sake, in your participation in the total rich life of the University. Let there be the further determination, with Franklin, to continue impartially to find truth and receive it. Few of you will search out truth as scientists in research laboratories or as scholars in University libraries. But all of you must continue to seek the homelier truths which guide men and women of good will to be good citizens, good neighbors, and perhaps most difficult and most important, good parents.

To Franklin's inquiry, "Will you endeavor to communicate. . . (the truth) to others?" you may most effectively answer by an abiding loyalty to the University, as citizens who speak out in its behalf and as alumni who give of your means to further the University's work. You may be unaware of the extent to which you have already contributed to the vitality of the University. As a questioning student you have stimulated your

instructors to more incisive thinking. As an interested student you have provided inspiration for wider learning and better teaching.

Your continued support of the University is not in payment for value received, but an extension of the mutually stimulating student-teacher relationship to that of a citizen-University alliance. In so far as you identify yourself with the University in the future, the scientific discoveries in her research laboratories and the voices in the classroom will be yours in part. You will be continuing to find truth and communicate it to others.

I would wish for all of you who graduate tonight the courage and the strength which sustained those who, a century ago, sought a state University on lands still belonging to the Indians, and those who, a half-century ago, started a laboratory of experimental medicine in a barn.

COBALT AND THE THYROID

Due to the previous appearance in the JAMA of a communication suggesting that a cobalt salt could have produced a reversible hypothyroidism, particularly in infants with sickle cell anemia,¹ the editor has in fairness published four papers embracing animal and human studies,² and indicating the nontoxicity of cobalt with reference to the thyroid. Klinck,³ of the Armed Forces Institute of Pathology, reviews the findings of ten cases of thyroid hyperplasia in young children. Five of these had received cobaltous chloride and ferrous sulfate. The microscopic picture in both groups was quite similar. The author stresses the importance of using caution in ascribing the changes noted to any one etiologic factor, inasmuch as the histologic picture of hyperplasia may result from many causes. On the basis of his observations, he concludes that goitrogenic activity of cobalt cannot be established. Further studies are indicated. Holly,⁴ of the Department of Obstetrics and Gynecology, University of Nebraska College of Medicine, conducted a controlled investigation on 227 pregnant women, plus their offspring, and in addition studied the effect of cobalt in animals. There was no evidence of toxicity in the seventy-eight women who received cobalt alone or with iron, and all children resulting from these pregnancies were normal. No thyroid enlargement was encountered. In the animal investigation, no demonstrable histologic change was noted. The author's findings substantiate the absence of any goitrogenic effect of cobalt. The significant effect of cobalt plus iron in pregnancy is the maintenance of normal hematologic values in nearly 100 per cent of the patients. Jaimet and Thode,⁵ of Hamilton College, McMaster Uni-

A review of four articles and an editorial published in J.A.M.A., Aug. 13, 1955.

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versity, Hamilton, Ontario, conducted extensive thyroid function studies on seventeen children receiving Roncovite in liquid form. No thyroid enlargement was seen in any case, nor did clinical hypothyroidism develop. The authors conclude that cobalt in amounts up to 6 mg. per kilogram daily for ten weeks does not affect any phase of thyroid function as measured by the radioactive iodine tests, and has no goitrogenic action. Scott and Reilly,⁶ of the Department of Radiology, University of California School of Medicine, and Veterans Administration Hospital, Fort Miley, investigated the effect of cobalt administration on various functions of the thyroid in rats. The usual hematopoietic action was noted, and the incidental observation was made that growth of a transmissible fibrosarcoma was inhibited. There was no inhibition of I^{131} uptake, thyroxin synthesis, hormone release or circulating hormone levels. The authors conclude that the addition of cobaltous chloride to the drinking water of rats in 60 mg. per kilogram daily dosage had no appreciable effect on iodine metabolism. Similar results were obtained with an iron-cobalt mixture.

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Inversion of the Uterus Immediately Following Delivery

CHARLES H. MCKENZIE, M.D., MARBRY DURYEA, M.D.,
DONALD M. LARSON, M.D., and E. T. HAUGE, M.D.

Minneapolis, Minnesota

THE condition of inversion of the uterus occurring immediately postpartum, in which the fundus uteri inverts through the relaxed cervix and presents itself in the vagina or at the introitus, manifests itself by hemorrhage and by shock out of all proportion to the amount of visible hemorrhage.

The incidence is reported variously from one case in 760 deliveries to one in 16,000 deliveries. In the past ten years at Swedish Hospital, the following case of inversion is the only one noted in over 25,000 deliveries.

In 1940, Das reviewed the literature and found 297 cases, with a mortality of 13.2 per cent. Since 1940, the following reviews and reports have been found:

	Cases	Deaths
Bell, Wilson and Wilson.....	80	14
Quigley	14	4
Loizeaux and Mastraioinni	4	0
	98	18 (18%)

The early recognition and treatment of the condition leads to better results as follows:

	Cases	Deaths
Diagnosed and treated within one hour	56	7 (12½%)
Diagnosed and treated after one hour	42	11 (25 %)

Case Report

Mrs. P. E., aged twenty-three, gravida I, Para O, delivered spontaneously after nine hours of labor, a living female infant, persistent occiput posterior. The placenta was delivered spontaneously without traction on the cord, and only slight pressure on the fundus, after twelve minutes third stage, at 1:55 p.m., January 14, 1955. Episiotomy was repaired under local anesthetic, but bleeding persisted and increased (Dr. Duryea).

The following sequence of events ensued.

2:20 p.m. 1000 cc. 5 per cent glucose in water with 2 ampules pitocin added, started I.V. (Dr. Donald Larson)

From the Obstetrical Department of Swedish Hospital, Minneapolis, Minnesota.

2:40 Blood pressure 50/0
2:48 500 cc. blood started with pitocin 0.5 cc. added. Patient redraped, examined by Dr. Hauge—inverted uterus found.
3:05 Second 500 cc. blood started. Blood pressure 60/0, estimated blood loss to date—750 cc.
3:25 Blood pressure 116/? Cyclopropane started. Fundus replaced by Dr. Hauge and held with fist in fundus.
3:35-4:15 Blood pressure gradually stabilized at 110/60 while blood and intravenous glucose with pitocin added were run in rapidly—fundus held by Dr. Hauge—patient under cyclopropane.
4:15 Pitocin 0.5 cc. intravenous. Cervix still fully dilated, fundus beginning to contract (Dr. McKenzie) about 500 cc. clot removed.
4:22 Pitocin 0.5 cc. intravenous—Fundus contracting better. Cervix fully dilated.
4:34 Ergotrate grs. 1/320 intravenous.
4:40 Anterior lip of cervix forming again but cervix still 6-8 cm. dilated, fundus firm. Fist removed from inside fundus.
4:50 Cervix admits one finger only—fundus firm. No bleeding. Blood pressure 112/70. Pulse 84.
5:15 Patient awake and talking.
2:48-5:30 Patient received 3000 cc. blood and 1000 cc. 5 per cent glucose, 4 cc. pitocin and grs. 1/320 ergotrate intravenously.

The patient made an excellent recovery. Temperature reached 103 degrees on the second and third days postpartum, but was normal thereafter. She was unable to void for several days but excreted about 1000 cc. urine daily. Hemoglobin 12 grams on January 22, 1955, eighth day postpartum. Mother and baby were discharged in good condition on eighth postpartum day.

Comment

The early recognition and treatment of the condition, with the availability of large amounts of blood for the treatment of the profound shock, undoubtedly saved this patient's life.

1. By using the fist as a tampon and molding the atonic uterus on the fist, the bleeding was fairly well controlled, and repeated inversions were prevented. As long as the cervix remained completely dilated and flaccid, this procedure appeared to us to be more feasible than uterine packing. As soon as the cervix reformed (and

(Continued on Page 711)

MINNESOTA MEDICINE

Death in Utero

An Unusual Case

JAMES WARREN MCGILL, M.D.
Superior, Wisconsin

The patient, a white woman, aged forty, para ii, gravida iii, entered the hospital at 10:30 p.m. on August 2, 1954, in labor and at term. Labor had begun at 10:00 p.m. Her membrane ruptured spontaneously at 10:45 p.m., and at 11:10 p.m. a seven-pound girl was born

bus protruding from one of the cord vessels. The arrow numbered 3 is the site of the attachment of the cord to the placenta. A long, firm thrombus extends from a vessel there.

The area between arrows 1 and 2 indicates a firm



Fig. 1.

normally; the cord was tied and cut. Pressure on the fundus caused the breech of the second twin to engage.

The membrane was ruptured artificially, and the frank breech was born; delivery was completed by gentle traction in the groins. The delivery of the fetus had been easy. The head was very cyanotic in appearance, and the skin of the abdomen was macerated. The cord was tied and cut and the placenta separated spontaneously and presented itself in the vulva, and was easily expressed.

It was noted that there was but one placenta and that the attachment of the cord of the second twin to the placenta was almost thread-like. Closer examination revealed that there was almost complete tearing of the cord at the site of its placental attachment.

As noted in the first illustration, the arrow numbered 2 indicates the torn end of the cord with a firm throm-



Fig. 2.

thrombus that extends from the torn end of the cord for about 1½ inches up the cord. The area between arrows 3 and 4 indicates a similar firm thrombus extending from the site from which the cord was torn, along the cord vessels on the surface of the placenta.

That the tear or rupture of the cord was not recent is indicated by the fact that the amniotic fluid was not bloody. Also, the condition of the skin of the fetus indicated that death had occurred several days previously. The mother was questioned as to whether she had sustained any falls, blows to the abdomen or other injury, but said she had not. Neither did she notice anything unusual at the time that the fetus would have died.

The second illustration shows the twins. The live, one weighed seven pounds; the second one, five pounds, four ounces.

No explanation is offered for the occurrence; it is merely presented as an obstetrical curiosity.

Presented before the Minnesota Gynecological and Obstetrical Society, Duluth, Minnesota, April 30, 1955.



PROPHYLAXIS OF RHEUMATIC FEVER

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Minneapolis, Minnesota

There seems to be an apparent drop in the incidence of rheumatic fever. Whether this is real or is a cyclic affair, no one can tell as yet. If it is real, we shall have to search for an explanation of this phenomenon, and perhaps the use of antibiotics in the treatment of streptococcal infections may be the answer. It has been well established that rheumatic fever follows infections due to group A beta hemolytic streptococcus and one could reason that if there were fewer streptococcal infections, there would be fewer cases of rheumatic fever.

One factor in this picture would be the prompt, adequate therapy of streptococcal infections with penicillin. The general practitioner has been criticized because of what has been claimed a promiscuous use of penicillin, but if this were true it would result in one unmixed blessing and that is the early interference with streptococcal infections so that rheumatic fever does not result. In the case of the child with rheumatic fever, it has been stressed¹ that he be protected against his environment by the daily intramuscular administration of 400,000 units of penicillin, until such time as throat cultures are proven to be free from the streptococcus, or at least for ten days, if laboratory facilities are lacking. Then, the daily prophylactic use of 200,000 units of a stable penicillin product is recommended to further protect him during his hospital stay from doctors, nurses, visitors and patients who might be carriers.

This rather simple procedure itself has been reflected in our experience by a happy finding of the fact that the period of hospitalization is shortened in these days over what it was ten years ago. In 1942, the average hospital stay for rheumatic fever children in our group at the Children's Hospital in Saint Paul was ninety-five days. In 1952, it was twenty-five days. This, I am sure, is a reflection of the change from the polycyclic

type of recurrent, flaming disease to a monocyclic form which comes to an end and does not flare up. One reason for this in our interpretation is the above-mentioned protection of the child while he is in the hospital. It is recommended by the Council on Rheumatic Fever¹ that children who have had rheumatic fever be given prophylactic, daily doses of a stable penicillin compound orally. The usual thought on this is 200,000 units daily. Many criticisms have been aimed at this program and the usual points made are as follows:

1. The child will become sensitive to penicillin.
2. The drug will no longer be effective against the streptococcus after such prolonged use.
3. Strains of streptococci will be produced which will be penicillin resistant.
4. The cost of the drug is prohibitive for continuous use.

These are very obvious criticisms, but they would have to be examined individually to determine their truth. With respect to the problem of sensitizing the child to penicillin by prolonged use of this drug, it has been our experience that if people are sensitive to penicillin, it is discovered very early in the use of the drug, and the drug must be discontinued. We have had no patients who have developed sensitivity over a period of years. The problem of lessened effectiveness of penicillin does not bear out in fact, and it has become obvious that the thousandth tablet is as effective as the first. The problem of penicillin-resistant forms of streptococci developing in the future is quite tenable. However, fortunately for us, this has not happened yet. Whenever it does, some other antibiotic will have to be placed in use.

The matter of the cost of the drug is a very

real and very serious objection to its use. The cost for an average family with one child in this category is approximately \$80 a year for continuous prophylaxis. When two or more cases in the family require prophylaxis, it is obvious that this is a real financial burden. This problem is real, but so far there seems to be no obvious solution. This matter of family expense has to be accepted the same as payments on the car, refrigerator, et cetera.

It has been suggested that sulfadiazine could be used as well and would be much cheaper, but I am sure that with the frequent visits to the physician necessary when the child is on sulfadiazine prophylaxis that the factor of economy is counter-balanced. Sulfadiazine also has the factor of being bacteriostatic rather than bactericidal and there is a very real opportunity for the child taking the drug to become a carrier and consequently a public health menace. A statistical analysis of a series using sulfadiazine and penicillin have also shown a definite preference for penicillin. The physician can practically reassure the parents that if they will cooperate in this matter, the child will not have a recurrence of rheumatic fever if a product is used which is stable in the presence of the gastric juices. Otherwise, the crystalline penicillin should be given at least an hour before breakfast so as to be sure and have a minimal amount of gastric acidity present. Whatever break-throughs have occurred have been credited to the fact that the penicillin was taken but it was taken at meal time and with a coexistent high level of streptococcal exposure. The protection level has not been high enough to withhold an invasion of the organism.

The question is frequently asked as to how long penicillin prophylaxis should be used. I would

feel that this can only be answered individually and depends on the anticipated exposure to streptococci in the community. During childhood, the intimacy of contact is great and, therefore, the child is in a more hazardous position than an adult. It is our feeling that penicillin prophylaxis should be taken continuously throughout each year for the duration of the school career. After an individual gets a job or a girl becomes a housewife, the intimacy with streptococcus throats will be lessened, and the drug could be discontinued. Various positions, such as those in medicine and nursing, place the individual constantly in touch with exposure, and I believe these two groups should accept the problem of prophylaxis as a lifetime nuisance. When a girl becomes married and is a housewife or works at a clerical position, I would feel that prophylaxis could be discontinued until such time as her own children are school age, at which time they again will place a complete cycle of exposure on the mother. This is not quite so true of the father, whose contact with the children when they are sick is very minimal.

Summary

In summary I would feel that the present rather optimistic picture in the epidemiology of rheumatic fever is due, in large part, to the availability of a good bactericidal agent. It is unfortunate, perhaps, that we have to place so much confidence in one drug. However, until the whole mystery of rheumatic fever is better understood and some other agent or means of combating the disease is developed, the prophylactic use of penicillin as described above is our best therapeutic weapon.

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UNIVERSITY RECEIVES GRANT

A \$59,650 Kellogg Foundation grant has been awarded to the University of Minnesota for further development of its course in hospital administration, James A. Hamilton, course director, has announced. This year's part of

the grant—which is to be used over a three-year period—amounts to \$21,450. The money will go into research work in hospital administration, integration of the on-campus and off-campus teaching program and preparation of textbook material.

Laboratory Aids

Sponsored by
The Minnesota Society
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George G. Stilwell, Editor

CYTOLOGIC STUDIES IN THE DIAGNOSIS OF CANCER OF THE LUNG

JOHN R. McDONALD, M.D.
Rochester, Minnesota

The cytologic examination of bronchial secretions and sputum has become a valuable method for the diagnosis of various types of carcinoma of the lung. It is a highly specialized procedure that, unfortunately, is not done in every laboratory. This procedure is of particular value in the diagnosis of primary bronchogenic carcinoma, although it sometimes yields positive results in alveolar cell tumors and metastatic malignant lesions of the lung.

Cytologic examination of sputum and bronchial secretions is one of four methods that can be employed to make the diagnosis of carcinoma of the lung. The other three are thoracic roentgenography, bronchoscopy and exploratory thoracotomy. Each of these four methods has a definite field of usefulness.

The rationale for the examination of secretions and body fluids in the diagnosis of carcinoma depends on the exfoliation of identifiable cells from malignant tumors that have access to a free surface. Malignant cells can be recognized in clumps, in clusters or singly by the fact that they have larger nuclei than do normal cells, irregularity in the size of the cells and nuclei, an altered ratio between nucleus and cytoplasm, hyperchromatism and large nucleoli.

The general principle of recognition of malignant cells in secretions was first recorded by Papanicolaou,¹ in 1928. The first study done on the recognition of malignant cells in smears of sputum was that of Dudgeon and Wrigley,² in 1935; they found cancer cells in 68 per cent of 58 cases of proved bronchogenic carcinoma. Barrett³ and Gowar⁴ later reported positive cytologic results in sputum in 68 and 64 per cent, respec-

tively, of cases of bronchogenic carcinoma. Wandall,⁵ in 1944, found cancer cells in the sputum in 84 of 100 cases of proved bronchogenic carcinoma. A study of bronchial secretions was made by Herbut and Clerf,⁶ in 1946; they reported positive results in 82.4 per cent of 57 cases of proved bronchogenic carcinoma. They considered that examination of sputum was too time-consuming to be utilized. Papanicolaou,⁷ in 1946, reported positive results from examination of sputum in 88 per cent of 25 cases of proved bronchogenic carcinoma. Woolner and I⁸ examined sputum as well as bronchial secretions and washings and considered that all three types of material should be employed; hematoxylin and eosin were used for staining in this study.

Examination of sputum requires more time than does examination of bronchial washings because of the greater dilution of malignant cells in sputum than in bronchial secretions by other cells, such as phagocytes and leukocytes. However, sputum has the added advantage of being more readily obtainable than are bronchial washings. It is best to examine more than one specimen of sputum, three probably being the optimal number. Patients are instructed to produce sputum from deep in the bronchial tree and three or four good hawkings of sputum are all that is needed. The time of day at which the specimen is collected is not particularly important. The patient should spit into a glass sputum bottle containing approximately 30 cc. of 70 per cent ethyl alcohol.

Two methods of handling this material have been employed. The commoner method is to prepare smears, stain them with either Papanicolaou stain or hematoxylin and eosin and examine the preparations microscopically. Less commonly, the material is put in paraffin blocks and sectioned. Bronchial washings are handled somewhat differently. The solution of sodium chloride used to

From the Section of Surgical Pathology, Mayo Clinic. This is the thirty-second in a series of editorial reports sponsored by the Minnesota Society of Clinical Pathologists and designed to foster closer relationships between clinicians and pathologists.

wash the bronchus containing the suspected lesion is centrifuged and the centrifugate is smeared or placed in paraffin and dealt with as is sputum.

Because of the time required for the scanning of cytologic preparations, it has been found advantageous to employ trained technicians to do this part of the examination. The final diagnosis is made by the pathologist, of course. Since the procedure is so specialized, it takes a great deal of time to train a technician to do the scanning. The Minnesota Division of the American Cancer Society supports the training of technologists to do cytologic examinations of exfoliated cells for pathologists. This organization provides scholarships in exfoliative cytology for medical technologists who are residents of Minnesota, enabling the technologist to study for 3 months in an established center. The technologists are chosen by the Minnesota Society of Clinical Pathologists.

Cytologic studies for exfoliated cells done for suspected pulmonary lesions yield positive results in approximately 70 per cent of cases of bronchogenic carcinoma. Approximately 2 to 3 per cent of these results will be falsely positive. When patients whose sputa contain malignant cells undergo bronchoscopy, the latter procedure produces positive results in 55 per cent of cases. It would appear, therefore, that cytologic examination of sputum and bronchial secretions is a definite aid in the diagnosis of primary carcinoma

of the lung. Because of the time-consuming nature of this procedure as compared with the examination of smears from the uterine cervix, it is probable that cytologic studies of sputum never will be used as a routine screening method for the detection of carcinoma of the lung. Rather, it would appear to have its usefulness for patients in whom there is a suspicion of carcinoma in the lung on the basis of a roentgenogram of the thorax or a history of cough, excessive amounts of sputum or hemoptysis.

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(Continued from Page 681)

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Editorials

JOHN F. BRIGGS, M.D.
ARTHUR H. WELLS, M.D.
HENRY G. MOEHRING, M.D.

PSYCHOMETRIC MEASUREMENTS

When the writer's seven-year-old niece was going to Itasca Park, she asked what "source" of the Mississippi meant. When informed, she said, "But I never thought the Mississippi began. I thought it always just *went*." With the marked emphasis upon testing and vocational guidance at secondary school or adult levels and the heavy demands for psychological services to courts and hospitals, the problems at the preschool and elementary levels where adolescent behavior originates are frequently overlooked.

Although children develop at different rates and vary greatly in their levels of maximum development, longitudinal studies show that in the areas of general intellectual growth and in progress toward social and emotional maturity, as well as in specific areas such as mathematical and linguistic achievement, there are *developmental sequences* which hold true. Interference with these natural developmental trends, either through serious education deprivation or through "forced feeding," as when a child is placed in a typical Grade I situation when his mental age is four and a half years, can lead to frustrations and tensions. Irregularities in patterns of development and behavior should be found and treated early.

A school psychologist can cooperate with school administrators, physicians, courts, and parent groups:

(a) by contributing to research and the public information program.

(b) by interpreting to schools, nurses, social workers, visiting teachers, and the courts the psychometric findings and trends.

(c) by helping parents use the developmental trends and mental status of children in educational planning.

(d) by early selection through verbal and performance scales of pupils for placement in state-aid classes for atypical children and in the home-bound teaching program.

(e) by applying specialized remedial techniques to pupils who achieve below their mental age expectancy levels.

(f) by referral to physicians suspected cases of organic, sensory, or physiological disorders and serious, emotionally disturbed cases.

It is apparent that the school psychologist serves in an important role in our complex educational system.

HELEN MIRIAM BISHOP, Ph.D.
Public School Psychologist
Saint Paul, Minnesota

VENEREAL DISEASE STILL A PROBLEM

While the advent of the sulfa compounds and penicillin produced a profound reduction in syphilis and gonorrhea over the country and indeed the world, they are still not the complete solution. Cases still have to be found before they enter the picture. The year 1946, as the first post-war year, saw a general increase in morbidity of both diseases. In Minnesota, 400 more cases of syphilis were reported than in 1945. On the other hand, gonorrhea showed a decrease of more than 400 cases. Since that time, syphilis has continued to decrease steadily and very largely in the early category. Gonorrhea showed consistent decreases until 1953, when a 13 per cent increase was noted in reported cases and a further increase was noted in 1954. Infectious syphilis is unlikely to become a problem in Minnesota when we note that in 1953 only forty-nine early or potentially infectious cases were reported and only forty-three in 1954.

Conversely, every old case of syphilis must be suspected as cardio-vascular or neuro-syphilis, and every one should be given the most searching investigation and examination. On the one hand, disability with possible hospital expense faces the heart patient, and on the other, final admittance to a state hospital if clinical symptoms are found. Cardiovascular disease may be arrested by penicillin, and the earlier it is discovered, the greater the value of the treatment. Asymptomatic neuro-syphilis can be diagnosed only by examination of the spinal fluid, and there

are still too many physicians failing to do this because the history is negative and there are no clinical symptoms, sometimes not even completely positive blood findings. A study of 135 cases of late and late latent syphilis reported in 1954 showed spinal examinations done in only fifty cases. The ratio should be much higher.

Positive serologic findings in blood and spinal fluid are still the most important single symptom of syphilis. Experience here with our multiple and repeated tests indicates that repeated completely positive findings are rarely false or so-called non-specific. One should be slow to decide against treatment in such a situation. On the other hand, it does not seem like "good medicine" to quickly decide that it is easier to give penicillin than to make prolonged and complete studies first, thus leaving the diagnosis forever in question.

One thing, of which Minnesota should be especially proud, is that in spite of no premarital testing law it is, I believe, the only state in the country to have a record showing that in four out of the past five years no live baby has been born with syphilis.

Intensive studies have been made to try to explain the increase in gonorrhea. The recognized increase in juvenile delinquency seems not related, as less than 10 per cent of cases occur in those under twenty. On the other hand, 638 cases out of 806 (in 1954) occurred in the twenty to forty group, and 339 among married, widowed, divorced and separated individuals. One might suspect a decline in moral attitude and a decreasing fear of infection due to the rapid and almost certain success of penicillin. The difficulty in securing prompt and adequate information on contacts is also a large factor. As a sample, a study of the month of January, 1955 indicated that in forty-four cases out of 104 reported, no contact information was given.

It is evident that although syphilis and gonorrhea are no longer a major health problem in Minnesota, a complete "fade-out" is still in the distance.

H. G. IRVINE, M.D.

THE DEMOCRATIC WAY

Our democratic form of government is admittedly less efficient, more cumbersome and more costly than a well-run dictatorship. Yet few of

us would be willing to settle for a dictator—even one who was all-wise and all-good, as well as all-powerful. We believe in freedom of choice—in government by the people.

It seems to us in the Tuberculosis Association that an effort to combine all charities in one gigantic fund drive is, in effect, an attempt to set up a charity dictatorship.

We all approve the Community Chest idea, as a voluntary banding together of welfare groups that find it beneficial to join in their fund-raising. But we question the wisdom of any effort to coerce *all* voluntary groups into a single fund-raising organization. As James E. Perkins, M.D., managing director of the National Tuberculosis Association, has pointed out: "He who controls the purse-strings also controls the program." Is it possible to select one group—in any state or community—that will be well enough informed on all health and welfare programs to determine each association's fair share of funds raised?

As for the matter of free choice, the average American has one or more "pet" charities. A father whose son has been crippled by poliomyelitis is eager to support the March of Dimes. A family that has seen one or more members suffer and die from tuberculosis will have a particular interest in eradicating that disease. Each individual wants the privilege of selecting the cause or causes in which he is vitally concerned. He finds little or no emotional appeal in a blanket request for support.

These are our general objections to an all-encompassing, fund-raising organization. As a Christmas Seal association, our three specific reasons for not joining Community Chests are:

First, the Christmas Seal, now half a century old, is recognized as the international symbol of the fight against tuberculosis. For hundreds of thousands of Americans, the use of Christmas Seals has become a holiday season custom.

Second, The National Tuberculosis Association depends for its support, not on large contributions from a few, but on a little bit from the many. Funds are raised, not by personal solicitation, but almost entirely through the mail. An individual receives Christmas Seals and a letter of appeal in his own home and decides for himself whether or not he wishes to support the program. There is no pressure from a solicitor

or from an employer. Any contribution is purely voluntary.

Third, the Christmas Seal sale is more than a fund-raising campaign. It provides our best opportunity to reach all people in every community with facts about tuberculosis. The campaign period is a time for most effective all-out education through newspapers, radio, television, in schools, in churches, and at organization meetings.

The doctor is the first line of defense against tuberculosis, but he cannot do the job alone. Health education is a major weapon. Tuberculosis is a public health problem, and an informed and alert public is essential to defeat this age-old disease.

E. A. MEYERDING, M.D.
*Minnesota Tuberculosis
and Health Association*

THE CONSULTING PSYCHIATRIST "SPEAKS"

In 1954, out of a total of 1,758 referrals made to Family Service of Saint Paul, Minnesota, a Community Chest agency, only thirty-three (1.8 per cent) were instigated by physicians. How might this significantly low number be explained? Why this serious and perhaps appalling lack of communication between two supposedly closely allied professional groups?

There is undoubtedly a variety of reasons. I should like to comment on the two that I consider most important and most worthy of consideration.

The first revolves around the simple but pregnant fact that doctors by the very nature of their orientation tend to refer their patients to other doctors. There is a definite but natural hesitancy on the part of many physicians to share the confidences of their patients with others outside the medical sphere. In order to maintain and uphold medical standards, we have adopted a strict and rigid code of medical ethics which acts as a strong deterrent and prevents us from more active participation with our fellow workers in the field of human welfare. In our partial isolation, we may be unaware that social agencies no longer play the part solely of "relief workers," doling out food, shelter, clothing and money to

the indigent. The social service worker of today is a person trained in the art of dealing with his fellow man on both a psychological and sociological level, a person striving for complete professional status and entitled to it. In this connection, interested and responsible individuals around the country are now beginning to deal with this issue by presenting bills to their state legislatures, requesting formal licensure as professional workers.

This brings me to the second reason for the apparent chasm existing between the physician and the Family Service agency. The doctor may be unacquainted with what a social agency has to offer. The question is often asked of me, "How can the medical profession best utilize a Family Service agency?" What Family Service has to offer will be answered in another editorial. Suffice it to say that in addition to financial consulting and legal advice, a whole host of problems centering around marital difficulties, family relationships and child behavior come under its jurisdiction. Intertwined social and psychological perplexities that can be handled on a casework level ought to provide occasions for worthwhile referrals from the physician to the social agency.

How may a closer relationship be effected between practicing physicians and social agencies? This can be accomplished only if these two groups learn to understand, to trust, and to respect each other. It must be thoroughly and completely comprehended that our goals are identical, the health and welfare of the individual. When we are able to recognize our mutual responsibilities, and this time hopefully is not far off, this realization will allow appropriate and mature communication between physician and social agency, redounding to the benefit of all.

PHILIP M. MARGOLIS, M.D.
*Consulting Psychiatrist
Family Service of Saint Paul*

THE FUNCTION OF THE HILL FAMILY FOUNDATION

The Hill Family Foundation was established in 1934 by the late Louis W. Hill and was substantially enlarged following his death in 1948.

Mr. Hill believed that the purpose of a foundation, as set forth in its charter, should be broadly stated to permit adaptation to the chang-

This is the second in a series of editorials on Family Service.

ing conditions inherent in perpetual existence. Therefore, the objectives of this Foundation are stated as being "for educational, scientific and benevolent purposes which contribute to the public welfare in such a manner as shall, to its Board of Directors, seem best."

The present policy of the Foundation became effective in 1950. Its program is not limited to any one field, but rather to the support of research and experimental projects which will have a significant effect within their fields and for which there is not general support.

The Foundation's objectives are: to pioneer and assist pioneer organizations in the fields of science, welfare and education; to assist in the development of the efficiency and correlation of existing programs which have public acceptance and support; to aid in the development of new bodies of knowledge and to encourage the utilization or correlation of existing bodies of knowledge; and to support projects directed toward the development of improved liaison between research and practice in the broad field of human welfare.

The Foundation is a grant-making organization, contributing only to projects related to established, non-profit organizations and agencies. It considers its geographic area to be the Upper Midwest, and priority in consideration is given to projects and programs of special value to or originating in this area. Contributions are not made to general operating budgets, annual financial campaigns, capital fund campaigns, or to religious programs of any particular denomination or sect. To maintain flexibility, the Foundation prefers to make grants for periods of less than five years.

In the field of health and the medical sciences, the Foundation is chiefly interested in basic or fundamental research. A goodly portion of its grants in this field are for projects and activities conducted under the direction of The Medical School, University of Minnesota. However, grants also are made for meritorious projects sponsored by other health and medical organizations which can demonstrate that they have the qualified personnel for direction and supervision of the proposed research or experimental undertakings.

A. A. HECKMAN

COLLEGE HEALTH SERVICES

Almost 300 years ago, John Locke, philosopher and physician, in an essay on "Some Thoughts Concerning Education," said: "A sound mind in a sound body is a short but full description of a happy state in this world. He that has these has little more to wish for, and he that wants either of them will be but little the better for anything else." This simple statement, though 300 years old, expresses very well the philosophy underlying the health programs in American universities and colleges.

The total number of young people in colleges and universities in America today is over two million and growing rapidly. The late Dr. T. A. Storey, more than thirty years ago, said: "Among all the subtle forces that mold public opinion and direct its attitude, the most powerful in its possibilities resides in that small group of men and women made up of these citizens who have received a college education and have learned how to use it. These one-time students and graduates constitute a significant major portion of the better educated parents and the men and women who become political leaders or leaders of public thought and action along other lines." The college graduate, as a member of a special group in which society has invested heavily, should become a leader not only in his own specialized field, but also in those areas in which family and community health may be conserved.

The main purposes of college health services are educational and preventive because they are a part of educational institutions. Students must learn what to do in event of acute illness when away from parents or family physician, where to seek competent medical care, and how to discriminate in matters of diet, activity, rest and other principles of healthful living. They must find sound sources of medical information and must learn how to use this counsel in the solution of their own physical and emotional problems. The college physician has a unique opportunity to teach students the importance of good medical care, where to obtain it, as well as advise on personal health problems of the student.

Tuberculosis case-finding programs in colleges are one example of the preventive and educational aspects of college health services. Twenty years before the idea of community mass x-ray

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surveys became popular, colleges and universities throughout the country were using this method of tuberculosis case-finding. Under the leadership of Dr. J. A. Myers, the program of routine tuberculin-testing and chest x-ray was developed in the colleges. Not only were early cases of tuberculosis discovered by this method, but students learned the meaning and importance of the tuberculin test and the need for periodic chest x-rays of those reacting to tuberculin.

The health examination required in most colleges is another educational tool. The student who has a periodic medical examination as an undergraduate will learn the value of such periodic examinations and continue them in his later years.

Another function of the college health service is similar to that of an industrial health service. By provision for the care of minor illnesses, emotional and physical, as well as the teaching of good health habits and disease prevention, much academic loss of time can be prevented.

A balanced health program as provided in the majority of colleges and universities today, including periodic health examinations, tuberculosis case-finding programs, health care and education in preventive medicine, should do much to prepare the college student to exercise the leadership needed to assure the best medical care for his family and community in the future.

RUTH E. BOYNTON, M.D.
Students' Health Service
University of Minnesota

POLIOMYELITIS VACCINATION IN MINNESOTA

Vaccination with Salk vaccine of persons in the priority groups in Minnesota under the Poliomyelitis Assistance Act of 1955 will be largely through private physicians in their own offices. This pattern of administration of vaccine follows the pattern that has been long established in this state for the administration of immunizing agents.

For many years the protection of susceptible populations against such communicable diseases as small pox, diphtheria, or whooping cough has been carried out almost entirely through physicians in their own offices. Both your society and the state health department are of the opinion that immunization against poliomyelitis can and should be handled in the same manner as are biologics for other immunizations.

Acceptance of the Minnesota plan by the medical profession and others is recognition of the fact that physicians in this state recognize and accept a basic responsibility for the practice of both preventive and curative medicine.

The plan reaffirms the confidence the public has in the high standard of medical practice in Minnesota. The public accepts the concept that every physician will do all within his power to make certain that within his own community the vaccine will be available only to eligible persons in the priority groups.

Both your society and the state health department believe that the plan is the best possible procedure for this state that could be devised within the provisions of the federal act.

The state plan was designed to provide the greatest possible amount of vaccine for priority groups through public funds with the least expenditure of tax monies. Although the Poliomyelitis Assistance Act provides that up to 20 per cent of allocated funds may be used for administration of the vaccine, all funds available to Minnesota will be spent for the purchase of vaccine. Administrative costs will be paid out of funds made available to the state health department under federal grants for public health purposes.

In the meantime, it is essential that all physicians observe the restrictions outlined in the state plan. The co-operation of physicians in other aspects of the poliomyelitis control program this year is ample evidence that the present program will achieve a successful conclusion. The National Foundation for Infantile Paralysis program for the immunization of first and second grade children has been carried out with real credit to the various community organizations. The medical profession is to be complimented on its splendid co-operation in this program.

The profession also has established an outstanding record for its active support of the poliomyelitis surveillance program carried on this year by the state health department. The reporting of cases, and the submission of information, stool and blood specimens from patients has contributed considerable data that will further efforts to control this disease.

Minnesota has been fortunate that the present poliomyelitis season has been a relatively light one. It is also encouraging to report the apparent protection given to susceptible persons by a single dose of Salk vaccine.

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Both your society and the state health department are looking forward to the time when sufficient vaccine is available to provide at least one immunizing dose of Salk vaccine to all persons in all priority groups. At this time, with the vaccine in short supply, all of us have a basic obligation to use what vaccine as is available for those persons in the first priority group, namely, from birth to nine years of age and pregnant women.

You can be assured that every effort will be made to keep both the medical profession and the general public fully informed of all current developments that pertain to poliomyelitis and the vaccine program.

R. N. BARR, M.D.

Minnesota Department of Health

INVERSION OF THE UTERUS

(Continued from Page 700)

this happened shortly after the first use of ergotrate), the fundus was firm and there was no evidence of reinversion.

2. From the published reports, it appears that acute puerperal inversion occurs within thirty to sixty minutes postpartum. We urge, then, that the fundus should be watched for the first hour after delivery, preferably with the patient in the delivery or recovery room.

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PROLONGED PREGNANCIES

There is no particular danger to the baby when pregnancy extends beyond the customary nine months, according to Dr. S. Kolonja of Klagenfurt who reported a series of 8,000 deliveries to a meeting of the Austrian Society for Gynecology and Obstetrics. "Waiting for spontaneous delivery is advisable. When no measures were taken to induce delivery, no fetal death that could be ascribed to the prolongation of pregnancy occurred,

but fetal mortality and the need for operative intervention was multiplied several times when delivery was induced by means of drugs." However, it is necessary to differentiate between true prolongation of pregnancy and a belated delivery due to other factors.—Foreign Letters: *Journal of the American Medical Association*, 158:1456 (Aug. 20) 1955.

MINNESOTA STATE BOARD OF MEDICAL EXAMINERS

230 Lowry Medical Arts Building
Saint Paul, Minnesota

F. H. Magney, M.D., Secretary

EX-CONVICT MASQUERADING AS DOCTOR OF MEDICINE SENTENCED FOR BIGAMY

Re: State of Minnesota vs. Charles A. Allen.

On August 23, 1955, the above-named defendant, thirty-six, 1405 Yale Place, Minneapolis, was sentenced by the Hon. Paul S. Carroll, Judge of the District Court of Hennepin County, to a term of not to exceed five years at hard labor in the State Prison at Stillwater for the crime of bigamy and having three prior felony convictions. Allen previously, on August 18, had entered a plea of guilty to the bigamy charge before Judge Carroll, and immediately before being sentenced he also pleaded guilty to an information charging him with the prior convictions. This information charged that Allen had been convicted of the crime of forgery on August 14, 1949, in Portland, Oregon, and sentenced to a term of from twelve to fifteen months; that on January 31, 1952, he was convicted of forgery in the first degree at Montezano, Washington, receiving a sentence of not to exceed twenty years, and that on August 24, 1953, he was convicted at Mohall, North Dakota, for obtaining money under false pretenses and given a two-year sentence.

Allen, who was born at Cheyenne, Wyoming, in 1919, although working as an orderly at a Minneapolis rest home, represented himself to the operator of that home and her daughter as being a doctor of medicine and having at one time been licensed to practice in Colorado. The Minnesota State Board of Medical Examiners was requested to determine whether Allen actually was a doctor of medicine or whether he was licensed to practice in any state. Extensive inquiry by the Board failed to disclose that Allen had ever held a doctor of medicine degree or a medical license. The defendant subsequently married the daughter of the operator of the rest home, despite the fact that he had previously been married in Vancouver, Washington, on January 7, 1949, and had not obtained a divorce. Allen was arrested on August 10, 1955, by Minneapolis police, and on the following day his wife signed a criminal complaint against him which resulted in the conviction for bigamy.

President's Letter

COUNTY MEDICAL SOCIETY ACTIVITIES

Following the summer lull, all county medical society officers and committeemen are, or should be, busily engaged in outlining a program of activities for the county medical society for the ensuing year. County society programs should be educational in nature, but the educational features should not be limited to scientific subjects alone, but should have at least equal voice with economic and social problems which face the profession and the public as far as medicine is concerned.

It would be of great value if the president of each county society could assign a subject to a panel of members for discussion at some future date which could bring out all the various facets of the numerous problems which face medicine, not only in scientific, but in the social and economic world. Your state officers have repeatedly emphasized the importance of a good indoctrination program for new members, and a re-indoctrination program for older members who seem to have lost touch with medical organizations.

Subjects of immediate and consuming importance are numerous, and many of our society members are willfully ill-informed or misinformed concerning immediate economic problems facing medicine. Subjects which lend themselves well to panel discussion may be some of the following: union health and welfare plans; lay-sponsored medical care plans; social security for physicians; the Bricker Amendment; the role of employer and employee in industrial or occupational medicine; problems of civilian defense, and Minnesota's part in the overall program; and hospital and physician relationships. The above are only a few of the important subjects for panel discussions that would be highly informative.

We often hear members say that they will not go to a county medical meeting if politics are going to be discussed. Pure science seems to be their forte. Far be it from me to belittle the scientific part of the program of any county medical society, but scientific medicine may well suffer untold damage because a physician has been unwilling to acquaint himself with the economic and social pressures which will inevitably affect the practice of scientific medicine in the future.

Every county society, no matter how small, should have an excellent grievance committee to handle local-level problems and complaints against member-physicians. A well-functioning committee, known to the community, can do a great deal to aid good medical-public relations, and can be an effective link between the profession and the people it serves. Many small grievances, considered and discussed thoroughly and sincerely on a county basis, can be halted or solved, thus preventing misunderstandings from becoming larger and more difficult to resolve satisfactorily.

Likewise, a good, active public relations committee can be a decided asset to a county medical society. This committee, working in conjunction with all other county society committees, can be the center of many activities, coordinating them for a smooth-functioning society, whose work fosters improved public relations.

I have little patience with the doctor who will tell you that he has no time to spend for county medical society activities, particularly if they concern the economic welfare of the profession and the people whom he serves. It is the duty of every doctor, not only to acquaint himself with the scientific advances of medicine, but also to be well informed regarding the economic problems of his profession. As a recent publication on medical ethics so aptly puts it, "Is your halo on straight? Are you seriously and earnestly attempting to inform yourself on both the economic and scientific problems of medicine? If not, let's straighten your halo."

Arnold O. Swenson

President, Minnesota State Medical Association

Medical Economics

Edited by the
Committee on Medical Economics,
Minnesota State Medical Association
George Earl, M.D., Chairman

SECRETARY INDICATES CHANGE OF HEART

Secretary of the Department of Health, Education and Welfare, Marion B. Folsom, has recently indicated that after a thorough study of the Administration's reinsurance proposal, called a mainstay of the Administration's health proposals, a change of heart may take place. According to recent newspaper reports, Mr. Folsom is not so convinced as his predecessor Mrs. Hobby was, that the plan is a good one for this country.

A recent newspaper story states that Mr. Folsom is "taking a new look at the whole business of health reinsurance."

He is quoted as stating:

"We haven't yet formulated a health program so far as this department is concerned. I am studying the whole health reinsurance idea, part of which was new to me. I have to make a decision soon so as to make recommendations to the President for his next State of the Union speech."

Folsom commented that there evidently had been little luck in getting Congress interested in this plan (reinsurance).

He continued:

"The people who want compulsory federal health insurance say this reinsurance won't do the job, that it won't reach the lower-income people and that it is inadequate. And the doctors shy away and don't want the federal government to do anything."

Mr. Folsom also gave his personal philosophy on the subject of continuing and catastrophic illness. He said he favored the utmost use of voluntary insurance plans. Also, he stated he was against federal subsidies on the ground that one subsidy just led to another.

Continuance of Income

Further, he outlined the most important thing to the wage earner is a sickness benefit plan that will assure continuance of income. The second most important protection should be a \$100 deductible voluntary insurance plan that would cover three-fourths of catastrophic illness costs up to such sizable sums as \$5,000 to \$10,000.

There is already a wide coverage of Blue Cross for hospital costs and Blue Shield for surgical costs, he pointed out.

He continued, noting that these plans furnish protection for all but long-range and catastrophic illness. But they carry nothing for nursing costs, nor for ordinary care in chronic cases after Blue Cross benefits run out.

Mr. Folsom believes an additional policy is needed that does not cover the first \$100, or perhaps \$200, but that picks up from that point on to pay three-fourths of all additional costs to a high minimum — up to \$5,000 or \$10,000. The employer might pay part of the costs, perhaps on a 50-50 basis.

Wall Street Journal Comments

Noting that Mr. Folsom is taking a new look at reinsurance, the *Wall Street Journal* comments editorially:

"Indeed, Mr. Folsom doesn't think the plan would work either. He thinks the net effect would only be another vast Government subsidy and one subsidy only leads to more and more. His attitude is certain to be twisted into something different by those who want more socialism in the Government, and doubtless he will be called a heartless fellow. This will be unfair, for Mr. Folsom recognizes that there are health problems and lags in the present forms of health insurance. But he recognizes also that there are wrong ways to go about trying to cure all the ills and cure them all at once."

Bureaucracy Won't Help

The *Journal* goes on to say that the surface in the health field, as noted by the Secretary, has hardly been scratched by voluntary insurance in spite of its added services and growth in recent years. It states:

"But what most of the companies have accomplished has been done on a sound actuarial basis and Federal bureaucracy has neither helped nor, as is often the result, hindered the growth. Already two-thirds of all employed people in the nation are covered by some sort of sick benefit plan."

"We would certainly be very much happier about it," the *Journal* comments, "if everyone had assurance that a sudden illness or a chronic ailment would not prove

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too much of a drain on their other responsibilities and we hope that the time will not be long before the voluntary associations can cover most such catastrophes."

Government Can Help Some

The *Journal* feels that the Government can help in this effort. One way would be to reduce the taxes which drain the ailing as well as the healthy. Another suggested way would be to allow more reasonable tax deductions for expenditures having to do with health care.

In conclusion, the *Journal* states:

"But there is one way not to do it. To put a Government bureaucracy into the business of insuring against sickness will not measurably aid the people's health. It would only be to make more dangerous the virus of state control."

GOVERNMENT INEFFICIENCY SEEN IN GREAT BRITAIN

Having little to do with medicine or medical economics, but nevertheless exemplifying government duplicity of effort and inefficiency in too much government in private affairs, a recent newspaper story asks the question "How many men does it take to install one gas stove?"

The story, by Seymour Topping and datelined London, is headlined "Not the Heat — It's Stupidity; Takes 23 Men to Install Stove." Mr. Topping quotes the *London Daily Express* in its campaign for more efficiency in Britain, and the paper's story about a man and his stove. The story states:

"According to W. B. Wilkinson, who runs a London hardware store, this is what happened when he asked the local government-run gas board for a new stove. An inspector called, looked at the old stove and agreed to the request. Two men arrived to deliver the new cooker. Two days later, two men arrived to fit it. Later, another two men called and took the old stove away.

"Seven men so far.

"Meanwhile, the men fitting the new cooker decided that a new meter was needed. A man arrived with a new meter. Two more men called to connect it. Another man also called to take away the old meter.

"It was then decided that the pipes needed blowing out. Three men drove up in a truck and set to work with a compressor unit. After a morning's work they decided the stoppage was not within the building, but must be under the sidewalk or road.

"Fourteen men so far.

"At this point an inspector arrived with a colleague. They surveyed the situation. Then, one morning, a truck carrying six men, automatic picks, compressor and other tools, drew up. They dug up the road and pavement.

"For two days—no gas at all.

"A new section of pipe was installed and for nearly a year everything was peaceful. Then Wilkinson reports, the other day a man dropped in. He announced he would be there the following Thursday to paint the pipes.

"What pipes?"

"The new gas pipes, of course," was the reply.

"And he was No. 23."

The *London Daily Express* editorialized: "Can anyone beat that for a record of over-employment?" And there was no comment from the gas board.

DOCTORS, UNION FUND SIGN UP

A recent article in *Business Week* notes a new development on relations between unions and medicine. Commenting that the unions and the AMA have fought each other on broad questions of public policy such as a national health program and on local practical issues such as group medical coverage of union workers, the story tells of what may well be the beginning of the end of some of the antagonism:

"Now, in California—where the local units of AMA and the labor organizations have been as deeply antagonistic as anywhere else—a new trail in cooperation is being blazed by the working relationship established between a conservative county medical association and a left-wing union."

The whole thing began about a year ago when the Welfare Fund of the International Longshoremen's & Warehousemen's Union and the Pacific Maritime Association launched a dental care program. Now, the story goes on, under a novel plan with the help of the San Joaquin Medical Society, the fund is providing medical and surgical coverage for the 550 longshoremen in the port of Stockton, California, and their families.

"The Stockton health contract accords a degree of protection not commonly available in group coverage," the magazine states. "But what makes it unique is that it bridges the chasm between closed-panel and open-panel health insurance."

Explaining, the article says:

"In California, that's an accomplishment. The California Medical Association has watched with disfavor the mushrooming growth of Henry J. Kaiser's closed-panel health plan, which now covers 500,000 on the coast. In the closed-panel restriction on choice of a

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physician, the CMA sees an assemblyline approach to medical care and a rupture of the normal relation between doctor and patient."

As the Kaiser Foundation Health Plan has spread, the magazine notes, the CMA has improved its own open-panel plan, the California Physician's Service, by making full benefits available to people of higher income. In most counties, full coverage under this plan is available to people up to the \$6,000 income level.

Free Choice

Workers under the new Stockton contract get the economic benefits usually associated with closed-panel service, while preserving the free choice feature inherent to the open-panel system, the magazine states. It continues:

"Members of the San Joaquin County Medical Society last year created the San Joaquin Foundation for Medical Care as the vehicle through which they could participate in the welfare fund's preventive medicine experiment. Now the foundation has assumed the additional role of receiving insurance payments from the welfare fund and paying doctors for service to the insured."

Practical Working Plan

Any member of the county medical society may become a member of the foundation and thus qualify to treat those covered by the contract. So far, 125 of the 154 members of the society have qualified and the number is growing. For emergencies arising outside the county, provision is made for reimbursing physicians who are not members.

For each worker covered, the welfare fund pays the foundation \$7.31 a month. Doctors bill the foundation for services rendered.

For health insurance purposes, the doctors have three schedules for fees, based on average income of a group.

Most of the welfare fund comes from the employer contributions of 10c per man-hour. The rest is made up from the 1 per cent payroll tax on workers for disability insurance; the state takes 1 per cent of the first \$3,000, the fund gets what is left. The fund also gives money to the Kaiser Foundation for a complete health package in the larger port cities and an insurance company gets some funds for medical insurance in smaller ports.

Results Tabulated

According to the magazine, the results of this preventive medicine experiment are still being tabulated. Full-scale medical examination with all the frills was made available to any longshoreman or warehouseman who wanted it. Of 900 eligible, 688 took the tests. The object was to spot incipient ills before they developed into costly medical, surgical and hospital cases.

PHYSICAL MEDICINE RESIDENCY FOR CAREER DOCTORS

A residency training program in physical medicine and rehabilitation has been started by the Veterans Administration for its *full-time career physicians*. The pilot plan will operate in Veterans Administration hospitals in Boston, Massachusetts; Bronx, New York; Hines, Illinois; Houston, Texas; and Los Angeles, California. Under the program a career Veterans Administration physician may take the training without any reduction in salary. He will be obligated to serve Veterans Administration for a year for one year's training; one and one-half years for two years' training and two years for three years' training.

Veterans Administration explained that the new program is separate from residencies in physical medicine and rehabilitation already in effect in fifteen Veterans Administration hospitals. The latter generally are for younger physicians recently out of medical school who do not contemplate a career in Veterans Administration medicine. Regular residency pay is provided in these instances.

Veterans Administration Medical Director William S. Middleton, in a separate announcement, reminded area medical directors and heads of Veteran Administration medical facilities that patients with chronic illnesses unable to care for themselves won't be discharged until outside arrangements are made for their care. This will be followed, Dr. Middleton indicated, even though hospitalization of an increasing load of veterans with chronic illnesses imposes "serious professional and administrative problems" on the Veterans Administration.—*AMA Washington Letter*, July 29, 1955.

While there is profound disagreement concerning the importance of acquired immunity, no one questions the importance of natural resistance in tuberculosis. It is clear that each individual possesses innate characteristics which determine the manner and intensity of his tissue response to the presence of tubercle bacilli. Clinical observations reveal that physical and mental fatigue, metabolic disorders like diabetes and starvation, and many other non-specific physiological disturbances often undermine resistance, while healthful conditions of living increase it. All this was well known fifty years ago; among the problems of which he urged study, Trudeau listed "above all, the mechanism of natural immunity."—RENE J. DUBOS, Ph.D., *Nat. Tuberc. A. Tr.*, May, 1954.

Public Health

POLIOMYELITIS VACCINATION IN MINNESOTA

Studies carried on this year by the state health department through its poliomyelitis surveillance program indicate that, even on the basis of a single dose of Salk vaccine, the procedure seems to give real protection.

As of September 19, 1955, there had been twenty-one cases of polio among the 112,115 first and second grade children who had received the Salk vaccine, with only two paralytic cases. In 33,259 nonvaccinated classmates there had been twenty cases, nine paralytic. This represents a case rate of 18.7 per 100,000 for vaccinates, and 60.1 per 100,000 for nonvaccinates. The case rate for paralytic polio among vaccinates was 1.8 per 100,000 and 27.1 among nonvaccinates.

These rates indicate there are three and a half times as many cases among the nonvaccinated as there are among those who received one dose of Salk vaccine. On the basis of these rates, there are fifteen times the number of paralytic cases among the nonvaccinated as among the vaccinated.

As of September 19, there have been 409 cases of polio this year, with five deaths, compared with 419 cases and eight deaths for the same period of 1954.

STATE PLAN FOR DISTRIBUTION OF SALK VACCINE

All Minnesota counties will receive Salk vaccine for poliomyelitis on the basis of percentage of population in the priority groups. Vaccination will largely be through private physicians in their own offices. The Minnesota plan for distributing the Salk polio vaccine made available under the Poliomyelitis Assistance Act was announced by Dr. A. J. Chesley, executive officer of the state health department, following approval by the state board of health and its poliomyelitis technical advisory committee. Approval of the plan by the United States surgeon general has been received.

All vaccine allocated to Minnesota at present will be purchased and distributed through the state health department with funds made available through the \$30,000,000 federal Poliomyelitis Assistance Act. Minnesota's allotment under this act is \$593,448. The entire amount will be used for the purchase of vaccine.

There will be no distribution of vaccine at this time through the usual commercial channels. When production reaches a high enough level to justify such a procedure, and/or when funds

available to the state health department are exhausted, vaccine will then be released by the state through commercial channels.

Minnesota will have funds available through the Poliomyelitis Assistance Act to purchase about 760,830 doses of Salk vaccine between now and February 15, 1956. It is estimated that the cost to the state and federal government will be 78 cents per dose. To date, the allocation to Minnesota by the United States Public Health Service in Washington totals 172,000 cubic centimeters (each representing one dose) of released vaccine. The vaccine is expected to become available around October 15.

Even when the state receives its full quota of 760,830 doses, the amount is sufficient only to give a single dose of vaccine to approximately 70 per cent of the eligible population or two doses to 35 per cent of the population. Approximately 1,111,005 persons in Minnesota are currently eligible to receive vaccine, based on the number of persons under 20 years of age and the number of pregnant women.

Only persons under 20 years of age and expectant mothers are eligible to be vaccinated with vaccine purchased under the Poliomyelitis Assistance Act of 1955. The Act provided that the surgeon general could establish categories of persons to be accorded priority. The establishment of the 5-9 age group as the first priority group was on the advice of the national poliomyelitis advisory committee.

The Minnesota plan proposes to expand the first priority group to include the 0-4 age group and all pregnant women.

This expanded priority group would receive its first dose of vaccine as rapidly as it becomes available. A second dose, preferably after an interval of about four weeks, would be given after the demand has been met for the first dose. Under the plan, persons in the 10-19 age group fall into the second priority group.

Salk vaccine will be made available to all physicians on request without cost. Physicians' fees for administering the Salk vaccine will not include any charge for the vaccine. This has long been the practice for biologics for other immunizations traditionally supplied by the state health department, Dr. Chesley pointed out.

Requests will be processed and filled on the basis of percentage of eligible persons in counties and areas. Public clinics in Minneapolis, St. Paul, Duluth, and Rochester-Olmsted County, if expanded to include poliomyelitis vaccination, will receive, upon request, a proportionate share of the vaccine allocated to the county or area. The fed-

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era law prohibits the application of a means test in such public clinics.

To assure equitable distribution among areas, physicians, and clinics, the state health department will keep a current record of the county area allotment, requests against such allotments, and shipments made. Vaccine will be supplied only on the basis of reports furnished by physicians and clinics. Additional vaccine will be withheld if reports are delinquent. The report will include name, age, sex, date and site of inoculation, manufacturer and lot number.

counties would receive approximately one per cent or less of the vaccine.

Hennepin County, with 117,228 eligible non-vaccinated children in the 0-9 age group, representing about 20 per cent of all children in the state in this age group, is the largest. It will receive vaccine in that same proportion. This means that of the 172,000 doses to be released to the state, Hennepin County would get 20 per cent or 34,400 cubic centimeters. This will provide the first dose of vaccine for slightly more than one-third of the total eligibles. With a total of 645,099

PARALYTIC POLIOMYELITIS CASES REPORTED IN MINNESOTA 1949-1953
Rate per 100,000 Population by Individual Year of Age

Rank	Age Group	Total Cases 1949-1953	Yearly Average	Average Rate
1	5 years	251	50.2	92.1
2	7 years	223	44.6	84.9*
3	6 years	234	46.8	84.2*
4	3 years	259	51.8	83.1
5	1 year	282	56.4	80.6
6	4 years	238	47.6	76.4
7	8 years	196	39.2	74.6*
8	2 years	258	51.6	73.8
9	9 years	167	33.4	63.6

POLIOMYELITIS CASES (ALL TYPES) REPORTED IN MINNESOTA 1950-1954
Rate per 100,000 Population by Individual Year of Age

Rank	Age Group	Total Cases 1950-1954	Yearly Average	Average Rate
1	5 years	490	98.0	179.7
2	6 years	463	92.6	166.6*
3	7 years	407	81.4	155.0*
4	4 years	452	90.4	145.0
5	3 years	439	87.8	140.9
6	10 years	299	59.8	131.8
7	8 years	332	66.4	126.4*
8	9 years	312	62.4	118.8
9	12 years	253	50.6	111.6
10	2 years	364	72.8	104.1
11	11 years	234	46.8	103.2
12	14 years	202	40.4	95.4
13	13 years	215	43.0	94.8
14	1 year	331	66.2	94.7
15	15 years	171	34.2	81.6

*Age groups largely covered by vaccination program in first and second grades of all schools, 1955.

Dr. Chesley pointed out that the federal government set up the voluntary control program to make certain that every state would get its fair share of the vaccine. The shortage of vaccine will continue for some period of time. Minnesota, with 2.17 per cent of the estimated eligibles for vaccination, will receive that proportion of each batch of vaccine produced and released.

The Minnesota plan insures that each area in the state will receive an equitable distribution in the same manner.

The state health department has set up a quota for each county based on the estimated number of persons in each priority group. As vaccine shipments are received, each county and area will receive its proportionate share. Hennepin County, with approximately 20 per cent of the state's total population in the 0-9 age group, would receive that proportion of each vaccine shipment. On the same basis, Ramsey County would be eligible for about 11 per cent of the vaccine, and St. Louis County would be entitled to an estimated 6 per cent. Most

estimated nonvaccinated children in the 0-9 age group in the entire state, the same proportion of one out of three and one-half holds true on a statewide basis.

When vaccine through commercial channels is made available in the state, manufacturers will supply the state health department with invoices of vaccine shipped into the state and pharmacists and supply houses will supply weekly sales reports. These reports will be checked with the county file and allotment data. Should any county or area get more than its proportionate share of the vaccine at any time, the situation will be corrected in future shipments. Biologic supply firms will be kept informed as to allotment and needs. Manufacturers, pharmacists, and supply houses have already indicated their willingness to comply with the recommendations of the state board of health.

The Minnesota plan for the distribution of public vaccine provides for the vaccination of Indians in the designated priority age group on the coun-

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ty allocation plan. Vaccine will also be supplied to state institutions for wards of the state on a proportionate basis for immunization of persons in the existing priority group.

Voluntary clinics organized and established by physicians in co-operation with the local health officer may be established, but the plan adopted by the state board recommends that such clinics not be organized until the vaccine supply is considerably greater. With only enough vaccine to give the first dose to about one-third of the children in the priority group, a clinic would not be a sound procedure, Dr. Chesley pointed out. If such clinics are organized, the vaccine will come from the allocation of the area the clinic serves.

There are approximately 223,165 children in the 5-9 age group, according to a formula which excludes the 112,115 children in the first and second grades vaccinated earlier this year in the National Foundation for Infantile Paralysis program. Vaccine to give these children their second shot was distributed by the state health department on September 12 for use in school clinics arranged by local communities. This program is completely separate from the Poliomyelitis Assistance Act program.

There are approximately 37,625 pregnant women in the state and an estimated 384,309 children in the 0-4 age group to swell the total to 645,099 persons in the first priority group recommended in the Minnesota plan. The second priority group includes 465,906 persons in the 10-19 age group, to make the 1,111,005 persons in Minnesota currently eligible to receive the vaccine.

The recommendation to enlarge the priority group to include the 0-4 year olds was based on the paralytic poliomyelitis cases reported in Minnesota for 1949 through 1953 and poliomyelitis cases (all types) reported in Minnesota for 1950-1954. Both the attack rate and the paralytic polio rate for all ages, 0-9, were so close that there could be little difference drawn in any consecutive ages such as 0-4 and 5-9. It was therefore felt that all these ages should be included in the first priority group.

Letter to Minnesota Physician

Dear Doctor:

You may now order, from the Minnesota Department of Health, poliomyelitis (Salk) vaccine for active immunization against poliomyelitis of the first priority group of individuals in your practice. Details of the State Plan of distribution of the vaccine are given in the enclosed abstract.

The essential points of the plan are:

1. Vaccine supplied by the Department is to be used **ONLY FOR FIRST INJECTIONS OF THE FIRST PRIORITY GROUP**—children 0-9 years of age inclusive, and pregnant women.

2. Vaccine should be requested only for your own use. Doctors not doing vaccinations should not request vac-

cine. Pregnant women should receive their injections from the doctor providing prenatal care.

3. Distribution will be based upon the percentage of eligible persons in each county and area.

4. Shipments of vaccine, after the initial distribution, will be made only if proper reports of use are furnished to the Minnesota Department of Health by physicians and clinics.

5. There will be no vaccine available in Minnesota at this time through commercial channels. You will be notified when vaccine can be obtained through commercial sources.

Salk vaccine will be sent to all physicians on request without cost. The initial shipment will be small to insure a fair share for everyone who may request vaccine. Subsequent shipments will be available within the limits of the county allotment. Vaccine will be sent, when available, only if requests for it are received.

The State Board of Health recommends this vaccination procedure as safe and effective. At the same time, the Board urges doctors to report immediately any adverse reaction to the vaccine or the development of suspected poliomyelitis in any vaccinated individual.

Please use the enclosed form for your initial request for vaccine. Do *not* list names, etc., of individuals in this request. Such information will be required on the report form which will accompany the shipment of vaccine, and which will be returned to the Department of Health following use of the vaccine. Requests for subsequent, additional supplies of vaccine should be submitted when this report of use is returned to the Department and may be placed on the back of the form.

Respectfully,

A. J. CHESLEY, M.D.

Secretary and Executive Officer
Minnesota Department of Health

REQUEST FOR POLIOMYELITIS VACCINE

MINNESOTA DEPARTMENT OF HEALTH
Division of Disease Prevention and Control
University Campus, Minneapolis 14, Minnesota

Date.....

I hereby request poliomyelitis vaccine for the first inoculation of the following number of eligible first priority persons in my practice.

Children 0-9 years of age inclusive.....

Pregnant Women.....

Total Number.....

Signed....., M.D.

Address.....

.....

.....County

Do not list names of individuals in this request. Such information will be required on the report form which will accompany the shipment of vaccine, and which will be returned to the Department of Health following use of the vaccine. Requests for subsequent, additional supplies of vaccine should be submitted when this report of use is returned to the Department and may be placed on the back of the form.

History of Medicine in Minnesota

THE PIONEER DOCTORS OF CHIPPEWA COUNTY PRIOR TO THE YEAR 1900

LEON G. SMITH, M.D.

Montevideo, Minnesota

(Concluded)

Dr. Herbert B. Crommett was another doctor who was in Chippewa County but briefly. About the only information about his early life is that he was born in 1873, belonged to the Allopathic School of Medicine and graduated from the University of Minnesota in 1896.

His professional card appeared in the *Leader and Commercial* in 1898-99. One news item January 14, 1898 said: "Dr. Herbert B. Crommett of Minneapolis arrived this week to locate here. His office will be over Peterson and Smith's Hardware Store;" on March 25, 1898 he "took Chas. Corse to Minneapolis for an appendectomy;" on July 28, 1899, he "resigned as manager of the baseball club;" and November 24, 1899, he "left for a new field in Wisconsin." He was listed in Amery, Wisconsin, from 1900 to 1923 but by 1925 his name had disappeared from the directory.

Maynard's first doctor seems to have been **Dr. Albert J. Tictin**. He was born November 8, 1864 in Germany. He was a graduate from the college of Physicians and Surgeons in Chicago, in 1890. The Medical Directory listed him from Barnum, Minnesota, the same year, indicating that he first located in that village. He later moved to Alden, Minnesota. It was not until 1897 that he came to Chippewa County, locating in Maynard. There he practiced medicine and managed a drug store.

The *Montevideo Commercial* of June 6, 1899 stated: "Dr. A. J. Tictin, of Maynard, is reported to have married the past week." His name does not appear in the roster of the Camp Release District Medical Society, when it was organized in 1903, but he was still in Maynard then, because a news item of January 22, 1904, stated: "It is reported that Dr. Tictin will move to Clara City."

No further record of his being in Clara City or Maynard appears, and the only additional information we have of him is that at some time he moved to Brooklyn, New York, where he died January 27, 1937.

The last doctor to settle in Chippewa County during the Nineteenth Century, is still, after fifty-eight years of practice, fifty-six of which were spent in this county, actively engaged in his profession.

If an opinion poll could be taken among doctors and laity alike, throughout this four or five county area, and the question asked, "Who is the best loved doctor in western Minnesota?" I feel certain the overwhelming answer would be Dr. M. A. Burns, of Milan.

Dr. M. Alpheus Burns was born in Panora, Iowa, May 13, 1873, the son of William H. and Margaret Barthelow Burns. His parents met when his father, as a Civil War soldier, was fighting in the South and became acquainted with the former Virginia girl, then living in Maryland. After the war, they were married and lived for a time in Washington, D. C., moving to Iowa in 1870.

HISTORY OF MEDICINE IN MINNESOTA

In 1886 the family moved to St. Paul, where Dr. Burns attended high school at St. Paul Central. He entered the University of Minnesota Medical School, and graduated in 1896.

He practiced medicine at Rosemount until January, 1897, at which time he started his internship at the Minneapolis City (now called General) Hospital.

In January, 1898, he settled in Milan, Minnesota, where he has been practicing continuously ever since, except for occasional interludes for post-graduate work. The first of these was in 1901, when he took a course in surgery at Post-Graduate College, New York City. That was when the knowledge of asepsis was just coming in, and he saw rubber gloves used in surgery and obstetrics for the first time. He bought several pair and brought them home with him, and laughingly tells of how, when he wore them at first on confinement cases, the old midwives were quite disgusted with the young, upstart doctor who was so finicky that he wore gloves to protect his hands.

Though of Scotch-Irish descent, he, very early in his career, picked up a very workable knowledge of the Norwegian language and was able to converse quite well in that tongue.

He bought a Rambler automobile in 1902, which he believes was one of the very first automobiles in Minnesota.

In 1904, he married Wilhelmine McKenzie, a graduate nurse, who was born in Park Hill, Ontario, Canada. There are three children, Floyd, George, and Mary.

A younger brother, F. W. Burns, had graduated from the Illinois University Medical School in 1903, practiced in South St. Paul for two years and moved to Watson, Minnesota, in 1905. In 1910, he moved to Milan and became associated with Dr. Burns there.

They built a hospital which was completed very shortly after the Montevideo Hospital, and its first patient was admitted February 7, 1911. Only a year later, this hospital burned to the ground. There were eighteen patients in the building at the time, and it was a miracle that no lives were lost. These patients were transferred to the Montevideo Hospital, and ever since, Dr. Burns has been upon its staff and has done his work there.

His brother moved away in 1913 and Dr. Burns practiced alone until shortly before World War II, when his older son, Floyd M., finished medical school and internship, and entered practice with him. Again, during the war, he was compelled to work alone. Floyd served for several years in the United States Navy, and took a year of surgical work in a V.A. hospital, after which he returned to Milan to become associated with his father.

Besides his professional work, Dr. Burns has always been very active in community affairs, having been mayor of the village for several years, Health officer for most of his professional life, and a school board member for more than twenty-five years.

He also has been president of the Camp Release District Medical Society, and held many other public offices.

He is one of a small and select group, the Fifty Club of the Minnesota State Medical Association, membership in which is possible only for a doctor who has been in the active practice of medicine for 50 years or more.

Some of his escapes from injury or death have been narrow. One of these incidents bears narrating. It was his custom, when the ice was frozen thick on Lac qui Parle, to save many miles of winter driving by cutting across the lake. Near the time of the spring break-up, he made a call across the lake late one

HISTORY OF MEDICINE IN MINNESOTA

afternoon, on a route where he could see that the ice was safe. On the return trip, however, it was after dark and a storm arose, so that, when he reached the open ice, he could not see his way. He let the horses pick their own course, which they did very well, and he arrived home safely. But, when he came over the same route the next day, he could see the marks of his sled runners from the night before, winding around patches of open water.

As this is being written, in the spring of 1954, Dr. Burns has reached the age of 81. A year ago, he accepted a call to Appleton before daylight one stormy morning, and got stuck in the snow at the viaduct, nearly two miles from Milan. He walked back to town in the blizzard, and routed out a garage man to take him to his destination over another road.

Over the many years he practiced alone, I am sure he did more driving, over a territory of a thirty mile radius, than any other three of his confreres combined. Often he would see patients in his office all day, sit up on a hard kitchen chair in some farm-house all night awaiting a delivery, and then by morning, drive fifteen miles to the Montevideo Hospital to do major surgery, and do it well.

Fortunately, Mrs. Burns is in reasonably good health, and he is as alert and full of vigor as ever. His family lives near him, Mary (Hegdahl) with her husband in St. Paul, George and his family on a farm near Milan, and Dr. Floyd and his family only a few blocks away, with Floyd taking over as much of the burden of work as his father will allow.

A few years ago the Camp Release District Medical Society nominated Dr. Burns as a candidate for the Outstanding General Practitioner Award. I quote one paragraph from that nomination which sums up the feeling of his fellow doctors: "Above and beyond his community activities, the one characteristic which makes Dr. Burns the outstanding general practitioner of our district, and, in our minds, of the entire state, is his strict sense of professional duty. He is of the older generation of physicians, who comes at once when his patients call him, night or day, blizzard or rain, 'come hell or high water.'"

This concludes the chronicle of the doctors of Chippewa County from its beginning to the turn of the century.

There are, however, three other doctors who settled here in the first years of the new century, who spent almost their entire professional lives in this county. One practiced here for over 30 years, the other two, more than 40 years. Each of them was prominent in community affairs; each was an exceptionally good doctor. Their many years of service to the people of this area and the importance of their contribution to the welfare of their communities, make it fitting that a brief biographical sketch of their lives be added to the history of our pioneer doctors. These physicians are Drs. L. R. Lima and L. N. Bergh of Montevideo, and Dr. H. T. Foshager, of Clara City.

Dr. Ludvig Reinhart Lima was born in Stavanger, Norway, April 30, 1877. He received his primary education in Norway, and emigrated to the United States. In 1896 he enrolled in Augsburg College in Minneapolis for his pre-medical work, graduating in 1899 with a B.A. degree. He obtained his medical education at the College of Medicine and Surgery of Hamline University in St. Paul, graduating in 1903. After a year's internship in the City and County Hospital of St. Paul, he entered the active practice of medicine in Montevideo, and his first professional card appeared in the Montevideo papers November 11, 1904.

Shortly before coming to Montevideo, upon September 25, 1904, he was married to Constance Bergh. Four children were born, Brunhild, Hildegard, Antoinette and Ludvig R., Jr.

HISTORY OF MEDICINE IN MINNESOTA

Three years after locating here, he was joined in practice by Mrs. Lima's brother, Dr. L. N. Bergh, and that association continued for many years.

Dr. Lima was a member of the Camp Release District Medical Society, the Minnesota State Medical Association and the American Medical Association during all of his years of practice. He was a surgeon for the Milwaukee Railroad during most of his professional life, and was on the staff of the Montevideo Hospital from its inception in 1910 until his death.

He was a busy practitioner, but he found time also for his main interest outside of medicine, namely, horticulture: he was a life member of the Minnesota Horticultural Society and for a great many years was the president and mainstay of the Montevideo Park Board.

He served for a time in the United States Army during World War I.

His daughter, Hildegard, had married a doctor, Dr. W. A. Owens, and shortly before World War II, his son, Ludvig, Jr., was studying medicine. Dr. Lima's plans to retire, and turn his practice over to his son and son-in-law were completed. In fact, Dr. Owens had already become associated with him when the war spoiled the plans. Dr. Owens entered service, and Dr. Lima, instead of retiring to a well-earned rest, felt compelled to again take up the full burden of his medical practice. When Ludvig, Jr., completed his medical education and internship and joined his father, and when soon thereafter, Dr. Owens returned from army duty to enter the group, Dr. Lima, finally, was able to retire. In 1946, after 42 years of arduous practice, he was able to take time for the work with plants and trees that he so loved. However, within two years his death occurred on September 14, 1948.

His daughter, Antoinette, passed away in 1936. Mrs. Lima survived him for a few years, but she died in 1952.

Brunhild (Brown), Hildegard (Owens) and Ludvig R., Jr. survive him, the two latter living in Montevideo, with their families. As previously noted, Dr. W. A. Owens (son-in-law) and Dr. Ludvig R. Lima, Jr., (son) are carrying on his practice.

Dr. Luthard N. Bergh was born at Stony Run, Yellow Medicine County, near Montevideo, September 27, 1880. His father, Ole Nielson Bergh, was a pioneer pastor in this part of the state. In 1883, the family moved to Audubon, Minnesota, where Luthard attended public school. He obtained his pre-medical work in Augsburg College in Minneapolis, and in 1906, he graduated from the University of Minnesota Medical School, and served a year as interne at Ancker Hospital in St. Paul.

He established his practice in Montevideo in June, 1907, being associated with his brother-in-law, Dr. L. R. Lima, for many years.

He served continuously upon the staff of the Montevideo Hospital from the time it was built in 1910 until his death. He was surgeon for the Milwaukee Railroad during the same period of time and served the Selective Service system throughout both World Wars. In April, 1946 he was awarded a Certificate of Merit and the Selective Service Medal, authorized by Congress and the President of the United States, in recognition of that service. He was also a lifelong member of the Camp Release District Medical Society, the Minnesota State Medical Association, the American Medical Association and the American Association of Railway Surgeons.

Dr. Bergh was wrapped up in his profession to the point where he took little time for travel, hobbies or other outside interests. For some years, until forced

to stop by a lame shoulder, he played a good game of golf, finding the relaxation and fellowship that made those the happiest years of his life.

He was an excellent surgeon, and for many years, he had the largest surgical practice in the western part of the state.

He was married to Grunhild Sverdrup in 1907, and two children were born, George S. and Solveig, both eventually becoming doctors.

Dr. Bergh suffered a stroke some years before his death, but this did not incapacitate him for long. After some months, he returned to doing surgery, even with a slightly crippled arm. However, his forty-one years of strenuous practice finally took their toll, and he died of a heart attack in 1948.

His wife, his daughter, Dr. Solveig Bergh, and his son, Dr. George S. Bergh, with his family, all live in Minneapolis.

Dr. Henry T. Foshager was born at Pennock, Minnesota, July 13, 1881. He was educated in the rural schools of his home community, and attended St. Olaf Academy and St. Olaf College in Northfield, Minnesota, graduating in 1905. He attended the University of Minnesota Medical School, graduated in 1909, and served a year's internship in Ancker Hospital in St. Paul.

He first located for practice in Ipswich, South Dakota, leaving there after three years to become associated with Dr. B. J. Branton in Willmar, Minnesota. He remained there but a short time before opening an office in Clara City, where he practiced continuously for 32 years, until his death.

On August 7, 1918, he was married to Gertrude Habstritt of Clara City.

Dr. Foshager was a member of the Camp Release District Medical Society, the Minnesota State Medical Association and the American Medical Association. He served as mayor of Clara City in 1917 and 1918 and was its health officer for many years.

His work was extremely rigorous because he had a large practice, particularly in obstetrics, and an extensive territory to cover. Even when his patients were hospitalized, it meant an 18 mile drive to Montevideo to attend them.

That was the ultimate cause of his death, because it was in hastening to attend such a case, late in the evening of October 19, 1946, that his automobile collided with a truck whose driver had failed to see a stop sign. He was killed instantly.

Certainly his death must be recorded as "in line of duty." Mrs. Foshager resides in Clara City. There were no children.

For the information that I have obtained in preparing this account of our pioneer doctors, I must credit the "History of Minnesota," by William Watts Folwell, "History of the Minnesota Valley" by Neil and Bryant, and "History of Chippewa and Lac qui Parle Counties" by Moyer and Dale.

I am also indebted to many of the living relatives of these various physicians and I wish to express my gratitude to Ludwig Roe and Everett S. Mills, for allowing me to browse through the old files of their newspapers. And my especial thanks go to John W. Peterson, Winifred Barber Nelson and Ida Simpson Kohr, for calling upon the memories of their childhood days in this vicinity to help me in my work.

In Memoriam

PHILIP A. ARLING

Dr. Philip A. Arling, graduate of the Medical School of the University of Minnesota and former Minnesota resident, died September 20, 1955, after an automobile accident. He had been in practice in McMinnville, Oregon. He was forty-six years old.

Dr. Arling had been a member of the Hennepin County Medical Society, the Olmsted-Houston-Fillmore-Dodge County Medical Society and the Minnesota State Medical Association. After a period of military service, he was a resident in surgery at the Mayo Clinic before moving to the west coast.

Dr. Arling is survived by his brother, Dr. Leonard S. Arling, Minneapolis. He leaves his wife, three children; three other brothers: Henry W. Swenson and Walter D. Swenson, Minneapolis, Gilbert Swenson, Chisago City; three sisters: Mrs. Howard Reick, Minneapolis, Mrs. Werner Hedenstrom, Saint Paul, and Miss Mildred Swenson, Racine, Wisconsin.

JOSEPH LAWRENCE ARKO

Dr. Joseph L. Arko, eye, ear, nose and throat specialist of Hibbing, died September 9, 1955, at the age of forty-two. He was on the staff of the Morsman Clinic and the Rood Hospital.

Dr. Arko was born in Chisholm in 1913. He attended Chisholm schools, Hibbing Junior College and the University of Minnesota. He interned at Wilkes Barre General Hospital in Pennsylvania. In 1939 he started his practice in Hibbing.

During World War II, Dr. Arko served in the army as a captain in the medical corps. His duty was on hospital ships, and in England and Italy.

Dr. Arko was an active member of the Rotary and had served a term as president of the Hibbing club. When he became ill three years ago, the club presented him with a television set as a tribute to his work and as a sign of their regard for him. He was a member of the St. Louis County Medical Society, the Minnesota State Medical Association and the American Medical Association.

Dr. Arko is survived by his wife, the former Mary Lovaas; two children, Joseph and Betsy; his father, John C. Arko of Chisholm; two brothers, John and Frank, both of Virginia; and a sister, Mary of Hibbing.

EGIL BOECKMANN

Dr. Egil Boeckmann, prominent St. Paul eye, ear, nose and throat specialist, died September 3, 1955, at his home at Dellwood, White Bear Lake. Son of a distinguished Norwegian physician, Dr. Boeckmann came to St. Paul with his parents when he was five. At the time of his death he was seventy-four years old.

Dr. Boeckmann attended the University of Minnesota, the University of Pennsylvania medical school and did post-graduate work in Europe. While at the University of Minnesota, Dr. Boeckmann was famed as the athlete

who ran the length of the field in the final seconds to tie the score of the Minnesota-Michigan football game of 1903. This was the game that started the traditional "Little Brown Jug" rivalry.

Dr. Boeckmann served on the Board of Regents of the University in the '20's. He was a member of the Ramsey County Medical Society, which his father helped found. He was a member of the Minnesota State Medical Association.

Besides his wife, the former Rachel Hill, Dr. Boeckmann is survived by two daughters, Mary Hill Boeckmann and Mrs. Peter Ffoliott, both of St. Paul; three sisters, Mrs. Charles Freeman and Mrs. Clarence Freeman, both of St. Paul, and Mrs. Julius Seyler, Munich, Germany, and five grandchildren.

HOWARD KRAMER GRAY

Dr. Howard Kramer Gray, fifty-four, a member of the staff of the Mayo Clinic since 1932, was drowned in the Mississippi River some 5 miles north of Lake City, Minnesota, on September 6, 1955, while swimming to recover a dinghy that had become detached from his cabin cruiser.

Dr. Gray was born at St. Louis, Missouri, on August 28, 1901, the son of Harriette Flora Gray and Carl Raymond Gray. He received the degree of bachelor of science from Princeton University in 1923, and from 1923 to 1925 was a student in medicine at the University of Nebraska. He then entered Harvard University, from which he received the degree of doctor of medicine in 1927. He served his internship at the Robert Packer Hospital in Sayre, Pennsylvania, from July 1, 1927, to July 1, 1928.

Dr. Gray came to Rochester, Minnesota, as a fellow in surgery of the Mayo Foundation on October 1, 1928. On July 1, 1931, he was appointed a first assistant in surgery, and from January to October, 1932, he was assistant resident surgeon at Saint Mary's Hospital. In 1932, he received the degree of master of science in surgery from the University of Minnesota. He was appointed to the staff of the Mayo Clinic in 1932, as a junior surgeon with the rank of instructor of surgery in the Mayo Foundation, Graduate School, University of Minnesota. In 1935, he was made head of a section of surgery, a post which he occupied until his death; in 1935, also, he was promoted to the rank of assistant professor. He became an associate professor in 1940, and a professor in 1947.

Dr. Gray, who took much of his training in operative surgery under the guidance of the late Dr. Edward Starr Judd, was attracted to surgery from the very beginning of his career. His first paper, published in 1931, dealt with external biliary fistulas. Surgical conditions of the gall bladder comprised a particular field that engaged his attention to the time of his death, and one in which he became widely known for his dexterity of operative technique and his profound knowledge of the underlying physiologic principles involved. In the

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same year, he published, with Dr. Waltman Walters and Dr. J. T. Priestley, a paper on total removal of the stomach, an operation in which he likewise acquired uncommon skill and wide recognition. In 1938, he operated on Col. James Roosevelt, eldest son of President Franklin D. Roosevelt, who came to Rochester with Mrs. Roosevelt to be near the son during and after the procedure.

Dr. Gray also did early work in surgical operations on the thorax. He maintained an active interest in advances in physiologic knowledge which could be applied to surgery, among them being his work with pedicle muscle grafts and, in recent years, the use of plastic tubing, in association with Dr. John H. Grindlay, for replacement of a section of the common bile duct from the gall bladder.

Dr. Gray had held a reserve commission in the Medical Corps of the Army, but on December 26, 1941 he entered the Medical Corps of the United States Naval Reserve with the grade of lieutenant commander. He was assigned as chief of surgery on the hospital ship, *Solace*, which was one of four such ships evacuating wounded men from the island of Saipan. Later, he was chief of surgical services at Aiea Heights Hospital in Honolulu, and was chief of surgery at the Naval Hospital in San Diego, California, at the time of his separation from the service in November of 1945. He was awarded the Navy Commendation Ribbon for "devotion to duty, able leadership in co-ordinating the surgical service of the hospital, and superior skill in his profession." In 1946, he was awarded the Legion of Merit, by direction of President Truman, "For exceptionally meritorious conduct in the performance of outstanding services to the United States. . . . His inspiring conduct throughout was in keeping with the highest traditions of the United States naval service." Dr. Gray held the grade of captain when he was released to civilian life in 1945.

Dr. Gray came of a family distinguished for its contributions to various aspects of American life. His father, Carl Raymond Gray, who died in 1939, was the son of a professor of mathematics; Carl Raymond Gray became president of the Union Pacific Railway System and later chairman of the board. He was awarded several honorary degrees, and served the railway until he was seventy years old.

Dr. Gray's mother, a native of Oswego, Kansas, was known nationally for her exposition of studies in the Scriptures. She gave a weekly radio broadcast in Bible studies from stations in both Omaha, Nebraska, and Kansas City, Missouri. In 1937, she was presented with the gold medal of the Golden Rule Foundation as "The American Mother for 1937."

A brother of Dr. Gray, Carl Raymond Gray, Jr., became vice president and general manager of the Chicago and Northwestern Railway Company and was a major general in the Transportation Corps during World War II. He was administrator of veterans' affairs in the Veterans Administration from 1947 to 1953, and has been decorated by several foreign governments.

Dr. Gray was a diplomate of the National Board of

Medical Examiners, and was certified as a specialist in surgery by the American Board of Surgery, Inc., in 1941. He was a fellow of the American College of Surgeons, and a member of the American Surgical Association, the American Association for Thoracic Surgery, the Western Surgical Association, the American Medical Association, the Minnesota State Medical Association, the Southern Surgical Association, the Society of Clinical Surgery, the Nu Sigma Nu professional medical fraternity, Society of the Sigma Xi, the Boylston Medical Society of Harvard University, the Ivy Club of Princeton University and the Alumni Association of the Mayo Foundation.

Dr. Gray had been a member of the Board of Governors of the Mayo Clinic since 1948. He was awarded the honorary degree of doctor of science in 1949 from Lafayette College, and the same degree in 1954 by the University of Nebraska. In 1950 he was honored by appointment as the Lord Moynihan lecturer of the Royal College of Surgeons of England.

In 1942, with Drs. Waltman Walters and James T. Priestley as co-authors, Dr. Gray published a 576-page volume entitled "Carcinoma and Other Malignant Lesions of the Stomach," which was received as "an important contribution to useful knowledge on the subject of cancer of the stomach." In 1948 Dr. Gray was appointed special surgical consultant to the Union Pacific Railroad Employees Association.

Dr. Gray was married on September 2, 1925, to Miss Lila De Weenta Conrad. Two children were born to Dr. and Mrs. Gray: De Weenta Russell Gray (Mrs. Walter I. Bones, Jr., of Parker, South Dakota) and Howard Kramer Gray, Jr.

Because of his unfailing ability to instill both hope and cheerfulness in his patients, Dr. Gray was held in warm affection by countless patients whom he had treated surgically over the years. Because of his sincere and inborn courtesy and thoughtfulness, as well as his equanimity and evenness of temperament, he was held in the greatest esteem by the fellows, nurses and surgical colleagues who came into daily professional contact with him. He was a concerned citizen of his community, a devoted worker in his church, an excellent musician and a gracious host. "Howdie" Gray will be long remembered and grievously missed by myriads of people.

The Howard K. Gray Memorial Fund is being established by his friends to provide further postgraduate surgical experience to outstanding students of surgery.

JOHN N. LIBERT

Dr. John N. Libert, physician of St. Cloud since 1921, died September 2, 1955. He was sixty-two years old.

Dr. Libert was a native of St. Cloud. He attended St. Cloud Normal School before going to Creighton Medical College and interning at St. Joseph's Hospital in St. Paul. He served as a medical officer in the army for two years in the U. S. and France before starting his practice in St. Cloud.

Dr. Libert had been president of the Stearns-Benton County Medical Society and was secretary of the society

IN MEMORIAM

for nearly twenty years. He was a member of the Minnesota State Medical Association, serving as vice-president in 1925, and the American Medical Association. He was a major in the national guard and belonged to the Fourth Degree Knights of Columbus, the Elks, the American Legion, and the 40 et 8. He was a member of the staff of the St. Cloud Hospital.

Survivors are his wife; his son, Harvey of Minneapolis; his mother, Mrs. Margaret Libert, and brother Paul, of St. Cloud; two sisters, Mrs. Robert Schmidt of Perham and Mrs. Frank Sullivan of Hamilton, Ontario, and four grandchildren.

DAVID EDWARD McBROOM

Dr. David E. McBroom, for many years superintendent of the Minnesota Colony for Epileptics at Cambridge, died September 3, 1955, in Minneapolis. He was seventy-one years old.

Dr. McBroom was born in Akron, Ohio, in 1883. He received his medical education at Ohio Medical University, graduating in 1907. He was on the staff of the School for Feeble-Minded at Faribault for three years, leaving to enter private practice. From 1910 until 1922 he practiced successively at Northfield and Adams, Minnesota, and Waterloo, Iowa. He was then recalled to the Faribault institution as assistant superintendent. In 1928 he moved to Cambridge where he served until 1941 when he was named director of the mental health unit of the Minnesota Division of Public Institutions. In 1945 he went to Redfield, South Dakota, to work for the State School for Feeble-Minded.

In 1941, Dr. McBroom was president of the East Central Minnesota Medical Society. He was a former member of the Minnesota State Medical Association, a member of the American Medical Association, the Minnesota Neurological Society and a fellow of the American Psychiatric Association. He was also a member of Tyron Masonic Lodge, Knights Templar, Scottish Rite and Osman Temple of the Shrine.

Surviving are his wife, Medora, and a daughter, Mrs. Samuel Mayo.

EUGENE JOHN McCANN

Dr. Eugene J. McCann, Minneapolis physician, died August 21, 1955, in St. Barnabas Hospital. He had been ill for several months.

Dr. McCann was born in Shakopee, Minnesota, in 1904. He attended the medical school of the University of Minnesota, graduating in 1931. He interned at Minneapolis General Hospital. For three years he studied internal medicine at the University of Minnesota. He was a member of the staffs of St. Barnabas, St. Andrews, St. Mary's and Veterans Hospitals in Minneapolis.

For five years during World War II, Dr. McCann was an army colonel serving as commanding officer of the 162nd General Hospital unit, which served in England and France.

Dr. McCann had been a member of the Ramsey Coun-

ty Medical Society and the Hennepin County Medical Society, the Minnesota State Medical Association and the American Medical Association. He was active in the United States army reserve.

He is survived by his wife; his mother, Mrs. Annie McCann, St. Paul; a sister, Mrs. William Muelken, Prior Lake, Minnesota; and four brothers, James, Joseph, Frank and Nicholas, all of St. Paul.

SIGSBEE RAYMOND SELJESKOG

Dr. Sigsbee R. Seljeskog, Minneapolis practitioner, died August 15, 1955. He was fifty-five years old.

Dr. Seljeskog was born in Waseca, Minnesota, in 1899. He attended schools in Pittsburgh, Pennsylvania, and the University of Pittsburgh. He graduated from the medical school of the University of Minnesota in 1936. After an internship at Lutheran Deaconess Hospital in Minneapolis, he did post-graduate work in physiological chemistry and hematology at the University of Minnesota, receiving a M.S. degree.

In 1941, Dr. Seljeskog entered military service. As a Lieutenant Colonel in the medical corps, he commanded a unit of the first field hospital to be set up on the continent after invasion of Normandy and remained with the unit in Belgium and Germany.

Dr. Seljeskog was a member of the Athletic club, Hugnad Lodge, Zarthan Lodge A.F.&A.M., Scottish Rite and Zuhrah Temple of the Shrine. He was a member of the Hennepin County Medical Society, the Minnesota State Medical Association, and the American Medical Association. He was formerly superintendent of the staff at the Sister Kenny institute.

He is survived by his wife; a son, Edward, Minneapolis, two daughters, Elaine, Minneapolis, and Mrs. Anita Mittelsted, Chaska, and one grandchild; his father, Louis Seljeskog of Waseca; two sisters, Mrs. Sam Hagen and Mrs. Arthur Larson, Waseca; a brother, Theodore, Redlands, California.

CARLYLE TINGDALE

An unfortunate boating accident at Lake Vermillion took the life of Dr. Carlyle Tingdale, of Hibbing, August 8, 1955. Dr. Tingdale was forty-seven years old.

Dr. Tingdale was born in Minneapolis, son of Dr. and Mrs. A. C. Tingdale. He attended the University of Minnesota and interned at Minneapolis General Hospital. He had practiced medicine in Hibbing for eighteen years, first on the staff of the Rood Hospital, with the Mesaba Clinic and later in private practice. He was village health officer and school doctor. He was a member of the St. Louis County Medical Society, the Minnesota State Medical Association, and the American Medical Association.

Dr. Tingdale is survived by his wife, the former Mary Catherine Bowen, daughter of Dr. Robert L. Bowen of Hibbing; his son, Patrick, and his father, Dr. A. C. Tingdale, Minneapolis; a brother, Randolph, New York City; a sister, Mrs. Owen Heath, St. Louis Park.

Reports and Announcements

MEDICAL MEETINGS

National

American Academy of Obstetrics and Gynecology, Conrad Hilton Hotel, Chicago, December 12-14, 1955.

American Association of Blood Banks, eighth annual meeting, Palmer House, Chicago, Illinois, November 19-21, 1955.

American College of Surgeons, sectional meeting, Milwaukee, Wisconsin, February 27-29, 1956.

American College of Surgeons, Conrad Hilton Hotel, Chicago, Illinois, October 30-November 4, 1955.

Association of Military Surgeons of the United States, 62nd annual convention, Statler Hotel, Washington, D. C., November 7-9, 1955.

Interstate Postgraduate Medical Association of North America, Minneapolis, Minnesota, November 1-4, 1955.

Mediclinics of Minnesota, postgraduate course sponsored by Academy of General Practice of Broward County, Fort Lauderdale, Florida, March 5-14, 1956.

National Society for Crippled Children and Adults, Palmer House, Chicago, Illinois, November 28-30, 1955.

Radiological Society of North America, Chicago, Illinois, December 11-16, 1955.

Southern Medical Association, Houston, Texas, November 14-17, 1955.

International

International Symposium on Enzymes: Units of Biological Structure and Function, Henry Ford Hospital, Detroit, Michigan, November 1-3, 1955.

AMERICAN COLLEGE OF CHEST PHYSICIANS TO HOLD STUDENT ESSAY CONTEST

The Council on Undergraduate Medical Education of the American College of Chest Physicians offers three cash awards for the best essay contributions by undergraduate medical students on any phase in the diagnosis and treatment of chest diseases (heart and/or lungs). First prize will be \$250, second prize \$100, and third prize \$50. Winners will be announced at the annual meeting of the organization in Chicago, Illinois, June 7-10, 1956. Manuscripts must be submitted by April 10, 1956.

An application form, plus instructions and suggestions for manuscript preparation, can be obtained by writing the Executive Director, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois.

OCTOBER, 1955

ASSOCIATION OF MILITARY SURGEONS

Physicians, dentists, veterinarians, nurses, women's medical specialists and medical service corps officers of the Army, Navy and Air Force Reserves are expected to attend the sixty-second annual convention of the Association of Military Surgeons. The meeting will be held at the Hotel Statler, Washington, D. C., November 7, 8 and 9, 1955.

The three-day meeting will include discussions of the medical problems facing the military services and the nation in an atomic war.

CONTINUATION COURSE

The University of Minnesota announces a continuation course in *Gastroenterology for General Physicians* to be held at the Center for Continuation Study from December 1 to 3, 1955. Dr. Henry L. Bockus, professor of medicine and chairman, Department of Medicine, University of Pennsylvania Graduate School of Medicine, Philadelphia, renowned gastroenterologist, will be guest speaker and will also deliver the annual *Journal-Lancet* Lecture on Thursday evening, December 1. The course, which will stress the management of the more commonly seen gastrointestinal disorders, will be presented under the direction of Dr. C. J. Watson, professor and head, Department of Medicine.

LYON-LINCOLN SOCIETY CLINIC COURSE

The fifty-second semi-annual clinic course of the Lyon-Lincoln Medical Society was held in September and October at the New Atlantic Hotel, Marshall. Speakers at the six weekly scientific meetings were Dr. Harold E. Miller, Minneapolis; Dr. B. F. Fuller, St. Paul; Dr. Ray C. Anderson, University of Minnesota; Dr. Bernard J. Spencer, Minneapolis; Dr. W. E. Wellman, Rochester, and Dr. Harry B. Hall, Minneapolis.

TWIN CITIES DIABETES ASSOCIATION

The Twin Cities Diabetes Association, a newly organized affiliate of the American Diabetes Association, will have Dr. Henry T. Ricketts of Chicago as guest speaker for a dinner meeting to be held at 6:15 p.m., November 16, 1955, in Coffman Memorial Union, University of Minnesota. Dr. Ricketts, former president of the American Diabetes Association, will speak on "The Problem of Vascular Disease in Diabetes." Dr. Ricketts is Professor of Medicine at the University of Chicago and is an outstanding authority in diabetes.

All physicians are invited to attend. Members of Hennepin and Ramsey County Medical Societies are invited to join the Twin Cities Diabetes Association. Information and reservations can be obtained through Dr. Wyman Jacobson, WA-6-6581, Minneapolis, or Dr. Marguerite Schwyzer, MI-8-3893, Saint Paul.

Woman's Auxiliary

COUNTY PRESIDENTS REPORT ACTIVITIES

Enthusiasm for progress, and also the desired participation of each individual member in the auxiliary program, seem to be the watchwords of the county presidents this year. At least this was very evident in conversations with the three responsible for the material on this page, namely—Mrs. Karl Walfred, Stearns-Benton; Mrs. Harold Peterson, Ramsey (reported by Mrs. L. G. Culver); and Mrs. L. R. Boies, Hennepin (reported by Mrs. C. W. Freeman).

Stearns-Benton

Stearns-Benton has outlined an active year, with Mrs. Thomas Dredge (formerly of Hennepin) acting as program chairman. They have monthly supper meetings, four members serving as hostesses each time, and have an average attendance of twenty-five. At their October meeting, they will present Dr. Mendelsohn, of St. Cloud Veterans Hospital, who will talk on mental health. He is an outstanding authority, having just recently come to St. Cloud from the Menninger Clinic in Kansas City. Other meetings will include a tea for prospective nurses, Christmas meeting at the Veterans Hospital when gifts will be brought for children of veterans, a book review, assembling of cancer dressings, and legislation. Their February meeting is a real treat, a Valentine party given by their husbands, which includes "dinner out," a corsage and a gift. Numerous new residences have been constructed, and members are opening them for auxiliary meetings. This adds up to an interesting and very worthwhile program.

Ramsey

The Fall Fashion Festival is over but will long be a topic of conversation. The proceeds from the show will go toward the Philanthropic Fund.

Congratulations to members of a great committee. Through their efforts and careful planning, the expenses were cut to a minimum. The very attractive table decorations, in the form of a wishing well with real little oaken buckets entwined with colorful paper flowers, were inspired by Mrs. Albert Hayes, chairman of decorations. These centerpieces were all made by the committee members. No time was wasted by Mrs. Hayes. It is reported that she carried crepe paper, wires, et cetera, with her in the car and while riding to and from her lake home, busied herself making buds and flowers.

Members from out-state might circle their calendars for next year's event, which will be held about the middle of September. Everyone is welcome.

The Year Book Committee members have been busy through the summer checking addresses and telephone numbers. The books will be ready for each member at the first meeting on October 17.

Members anticipate a happy and busy season this year with the very capable and pleasant Mrs. Harold O. Peterson at the helm.

Hennepin

Health Day—the major public education and public relations activity of the Woman's Auxiliary to the Hennepin County Medical Society—is well under way. Scheduled early in the fall, October 17, to co-ordinate with school and PTA programs, this day-long open house to acquaint Mr. and Mrs. Hennepin County and their families with the recent advances in medicine and dentistry, will emphasize the problems of adolescence this session.

Preparing for the event since last spring, the chairman, Mrs. Lyle French, and her committee of ten have contacted the principals of all public, private and parochial schools in the county, all PTA presidents, all the clergy, all women's and numerous other organizations, such as the American Legion. Mrs. French met with the School Health Committee of the Minneapolis Public Schools, in an effort to work out a program that would interest parents, teachers and students alike. Speakers were contacted, the main ballroom at the Radisson Hotel rented, publicity arranged.

Working with the Hennepin County Dental Auxiliary, the medical auxiliary is going all-out to make the event a success. Announcement cards will be sent out with doctors' September statements; house organs of local industries will carry notices; there will be a radio, television and newspaper publicity. Placards will be placed in drug stores and hospital lobbies.

The drawing card?—A top-notch program with excellent speakers. The morning will be devoted to "The Age of Turmoil"—adolescent problems. Speakers include Prof. Reynold Jensen, head of the department of child psychiatry at the University of Minnesota, on "Problem Children—Do They Exist?"; Judge Thomas Tallakson (tentative), head of juvenile court, on "Alcohol and Delinquency"; Dr. Harold Eberhardt on "Mouth Care for Adolescence"; Dr. Albert Stoesser on "Skin Care of Adolescence"; Judge Lindsey Arthur (tentative) on "Adult Responsibility for Teen Age Driving."

The afternoon program will include talks on rehabilitation of the handicapped by Mr. Schoenbaum, director of the Easter Seal program, and Dr. Frederic Kottke, professor of physical medicine and director of the Rehabilitation Center at the University of Minnesota.

A discussion of cancer will follow, with talks by Dr. Ralph Christensen on "Oral Cancer" and Dr. Stuart Arhelger (tentative) on "Cancer Research," plus a film titled "146,000 Could Live."

The finale of the day is an evaluation of Salk vaccine by Prof. Gaylord Anderson, director of the public health department at the University.

In addition to the program, there will be exhibits set up by several health organizations including the Blood Bank, Tuberculosis Association, and the American Cancer Society. The mobile x-ray unit of the Tuberculosis Association will be in front of the hotel to take chest x-rays.

The result?—Members hope to top the 1954 Health Day attendance record of 3,000!

General Interest

Dr. Gordon M. Martin, Rochester, was named president of the American Congress of Physical Medicine and Rehabilitation at its annual meeting in Detroit, Michigan, early in September. **Dr. Fred-eric J. Kottke**, Minneapolis, was elected third vice president of the organization.

Dr. Thomas Johnson, Minneapolis, has been named head of medical services at Stillwater State Prison. Announcement of his appointment was made by Warden Douglas Rigg. Dr. Johnson, a native of Texas, graduated from the University of Minnesota in 1954 and recently completed his internship at Mount Sinai Hospital, Minneapolis.

Dr. Ralph H. Buesgens, Waterville, has purchased a lot in the city and is in the process of erecting a new medical clinic building.

"New Tuberculosis Legislation" was the title of a talk by **Dr. Mario Fischer**, public health director for Duluth and St. Louis County, at the Tuberculosis Nursing Council fall meeting of the Minnesota Nursing League on September 19 at Nopeming Sanatorium.

Dr. Ernest A. Ager, Le Center, narrowly escaped serious injury when his car skidded on a rain-soaked highway, went out of control and overturned while he was returning home from a hospital call recently. Although the car was badly damaged, Dr. Ager escaped with bumps and bruises.

Dr. J. A. Bargan, Rochester, has been named a member of the medical advisory board of the Sears-Roebuck Foundation. Function of the board is to assist the foundation in the development and administration of programs of interest to the medical profession.

Dr. R. A. MacDonald, Littlefork, was named vice chairman of a Koochiching County committee for the care of the aged and infirm when the committee held its organizational meeting at International Falls in August. Purpose of the committee is to make recommendations in regard to construction of new facilities for the aged.

Dr. Thomas A. Peppard, Minneapolis, was presented with the St. Barnabas Hospital bowl award during the hospital's nursing school commencement exercises in Minneapolis on September 2. The award is given each year to a physician in Hennepin County who "by reason of his professional contributions on the basis of medical research, medical achievement or leadership, has become the outstanding doctor of this or other years." Physicians previously honored include **Dr. S. Marx White**, **Dr. Henry L. Ulrich**, and **Dr. E. J. Huenekens**.

Dr. Douglas L. Johnson moved from Little Falls to St. Paul on August 28. He will live there for the next year while completing a fellowship in ophthalmology at the University of Minnesota.

Dr. Andrew C. Erlanson, St. Paul, has been appointed pediatrics consultant for the Minnesota Department of Health section of maternal and child health. He recently completed a three-year fellowship in pediatrics at the Mayo Clinic, Rochester.

Dr. and Mrs. W. G. Benjamin, Pipestone, returned home late in August following a summer tour of Europe.

Dr. Hilbert Mark, staff member of the Minnesota State Sanatorium at Ah-Gwah-Ching from 1946 to 1951, was recently named director of preventive medicine of Philadelphia, Pennsylvania.

On a vacation trip to the West Coast, in August, **Dr. J. H. Dokken**, Windom, fractured his arm at Salinas, California, when he fell while being attacked by two dogs during a tour of a new construction project.

Dr. F. W. Bachnik, formerly with the Adams Clinic in Hibbing and more recently a resident of Rochester, sailed for Europe on September 6 for a tour of European medical centers. On his return he will join **Dr. C. B. Cunningham**, formerly of the Lenont-Peterson Clinic in Virginia, in the practice of obstetrics and gynecology at St. Petersburg, Florida.

Presiding over the third general assembly of the Council for International Organizations of Medical Sciences when it met September 30 and October 1 in Paris was **Dr. Maurice B. Visscher**, head of the University of Minnesota's department of physiology.

Dr. Visscher served as president of the second general assembly and is a member of the council's executive committee, which will confer September 28 and 29, and October 2, 1955.

Dr. and Mrs. Virgil Schwartz left by airplane the first part of August for England. From there they visited Belgium, Holland, Germany, Switzerland, Italy and France. They arrived home the middle of September.

Dr. Gordon R. Kamman, of St. Paul, addressed the Mid-continent Psychiatric Association at Tulsa, Oklahoma, on September 24, 1955. His subject was "Harmful Effects of Interpretive Psychotherapy in Certain Involutional Depressions."

Principal speaker at a meeting of the Kiwanis Club in Rochester on August 18 was **Dr. Jan H. Tillisch**,

BOOK REVIEWS

Rochester, who discussed the accomplishments of the First Minnesota Regiment in the Civil War.

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Dr. William F. Braasch, Rochester, retired member of the Mayo Clinic staff, has been named to the University of Minnesota Alumni Association committee of past presidents.

NEW LOCATIONS

Dr. Winfield Williams, who recently completed a residency in internal medicine at the Minneapolis Veterans Hospital, has become associated with the Park Region Medical Center in Fergus Falls.

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Dr. Carl N. Harris, senior physician of the Adams Clinic, Hibbing, has announced that **Dr. Laurence G. Thoun** has become associated with the clinic. Dr. Thoun, a native of Hibbing, was an instructor in obstetrics and gynecology at the University of Utah Medical School and has been in private practice in Honolulu, Hawaii, for five years.

MINNESOTA BLUE SHIELD

In the first six months of 1955, the amount paid to doctors for services rendered Blue Shield subscribers was 15 per cent greater than the payments during the same period of 1954. The total amount of Blue Shield claims paid from January 1 through June 30 of this year is \$2,837,170. For the same period in 1954, the amount paid by Blue Shield for services rendered by doctors was \$2,465,876. This increase in payments represents \$371,294 more during the first six months of 1955 than during the same period of 1954. The average monthly Blue Shield payment during the first six months of 1954 was \$410,000. In the same period of 1955, this average is \$62,000 greater, or \$472,860 per month.

One of the reasons for the increases in Blue Shield payments in 1955 over the comparable period in 1954 is the fact that a greater number of services were rendered by doctors to Blue Shield subscribers. For example, during the first six months of 1955, Blue Shield provided payment for 94,785 services rendered by doctors. In the same period in 1954, 81,679 services were provided Blue Shield allowances. This shows an increase of 13,106 services in the first six months of 1955 over the same period in 1954. This increase in the number of services paid is greater than can be explained on the basis of the enrollment increase.

In further study of Blue Shield payments, allowances for medical care during the first six months of 1955 are 17 per cent greater than during the same period in 1954. Surgical benefits increased 11 per cent and obstetrical payments almost 18 per cent. Blue Shield payments for such ancillary services as diagnostic x-rays, anesthesia, endoscopic examinations and consultations were 33 per cent greater during the first six months of 1955 than during the same period of 1954.

Inasmuch as the Blue Shield contract and Schedule of Payments were revised, providing additional and increased benefits effective July 1, 1955, it is expected that payments to doctors for services rendered during the last half of 1955 will surpass the amount paid in any previous six-months period.

Book Reviews

Books listed here become the property of the Ramsey, Hennepin and St. Louis County Medical Libraries when reviewed. Members, however, are urged to write reviews of any or every recent book which may be of interest to physicians.

SURGERY OF THE SMALL AND LARGE INTESTINE. Charles W. Mayo, M.D., Section of Surgery, Mayo Clinic, Rochester, Minnesota; Professor of Surgery, Mayo Foundation, University of Minnesota. 340 pages. Illus. Price \$9.00. Chicago: Year Book Publishers, Inc., 1955.

The long awaited companion book to the Year Book series on surgical technique is now available. It is a concise book with excellent illustrations of the more common surgical operations performed upon the small and large intestine and rectum. Included are many specific details regarding diet and preoperative and post-operative care that many similar books leave unclear or omit entirely. For example, the method of bowel preparation for colon surgery at the Mayo Clinic is described explicitly.

Preceding each segment of the gastrointestinal tract being considered, is a short, lucid discussion with illustrations of the blood supply, lymphatic drainage, and general anatomic relations. These few pages are exceedingly helpful and furnish the necessary background for an understanding of the operations to be described.

After reading that portion of the book pertaining to intussusception, one is left with the idea that the treatment of choice for intussusception in infants as well as adults is resection. In infants, there usually is no anatomical basis for the intussusception and I believe that resection in these cases is usually not necessary; if done routinely, they will lead to an undesirable mortality.

I would also differ with the author regarding the management of Gross' Type III imperforate anus with recto-urinary tract fistula. In most cases, a one-stage combined abdomino-perineal operation can be done primarily, rather than a preliminary colostomy followed by a waiting period of four to five years before definitive surgery.

The section on regional enteritis is exceptionally well done and furnishes a practical approach to the surgical treatment of a most perplexing disease. Much of the valuable data presented was obtained from the recent excellent review of 600 cases of regional enteritis at the Mayo Clinic by Van Patter.

The author's vast personal experience in lower gastrointestinal surgery has undoubtedly been the major source of information for this book. Therefore, the great value of this book is to the young surgeon who is given a step-by-step practical approach to the surgical management of lesions discussed. I would recommend the book most heartily.

KENNETH A. STORSTEEN, M.D.

Most multiple primary tumors arise in the bowel, bladder, and skin.